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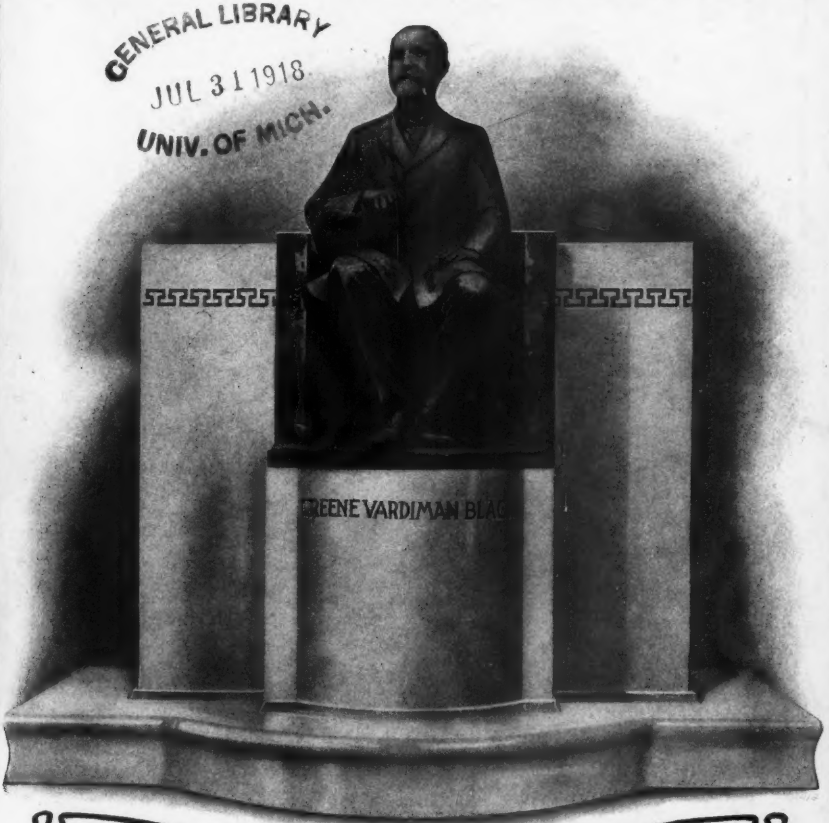

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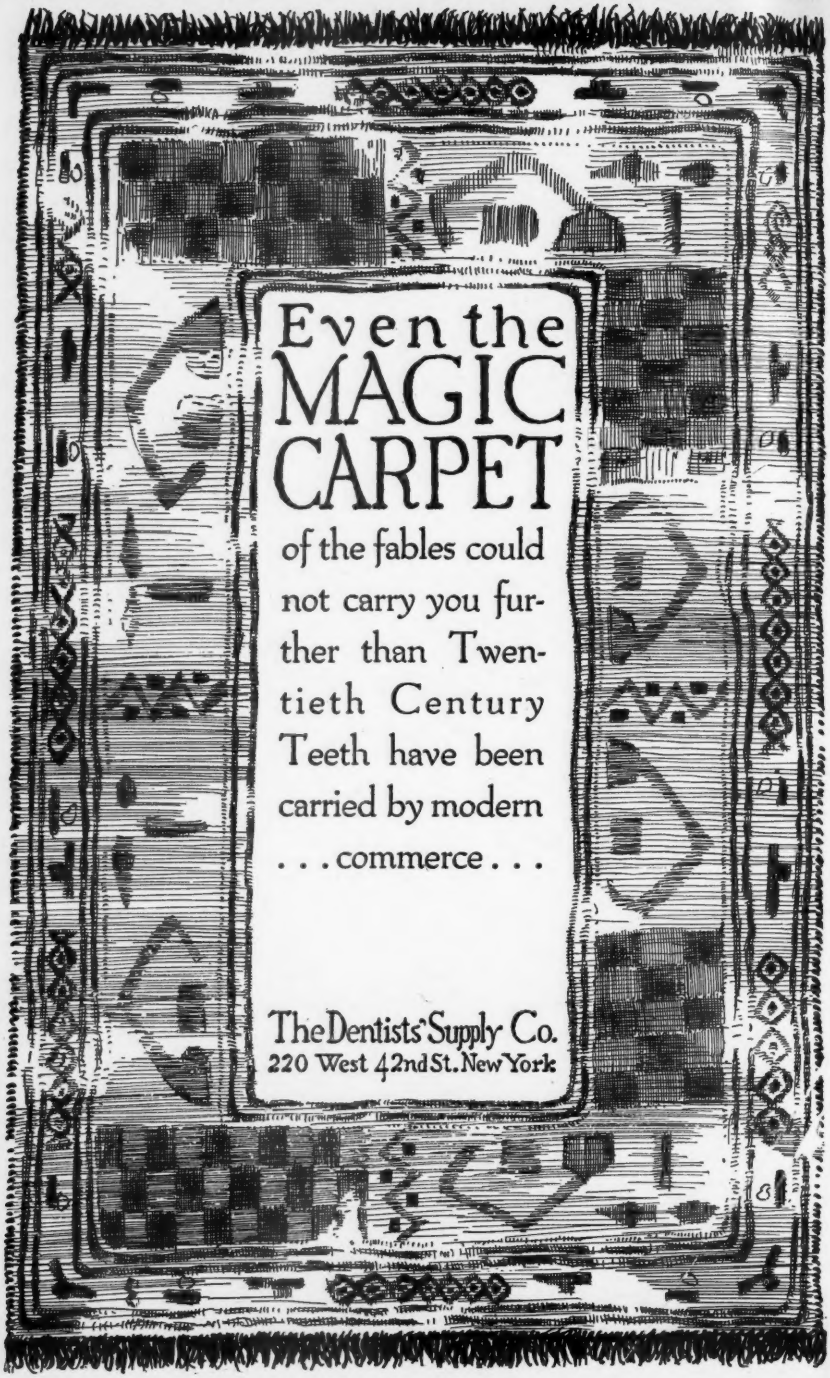
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THE
DENTAL DIGEST

Vol. XXIV JULY, 1918 No. 7

CONSERVATION OF PLATINUM IN DENTISTRY*

THE CONSTITUTION, PHYSICAL PROPERTIES AND PRACTICAL APPLICATION OF GOLD ALLOYS REPLACING PLATINUM AND IRIDIUM FOR DENTAL PURPOSES, WITH THE OBJECT OF CONSERVING PLATINUM METALS FOR THE BENEFIT OF THE GOVERNMENT

By LOUIS J. WEINSTEIN, New York, N. Y.

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(*Continued from June*)

THE AUTHOR'S SERIES OF ALLOYS

From the preceding data on the properties of the binary alloys of gold with the metals in group one, certain conclusions may be drawn and data obtained and it then becomes a comparatively simple matter to form the complex alloys to meet dental requirements. Before proceeding to formulate a complex alloy, it will be well to consider again the hardness conferred upon gold by the metals in group one.

COMPARATIVE HARDNESS OF BINARY ALLOYS OF GOLD WITH 10 PER CENT. AG., PD., PT., AND CU.

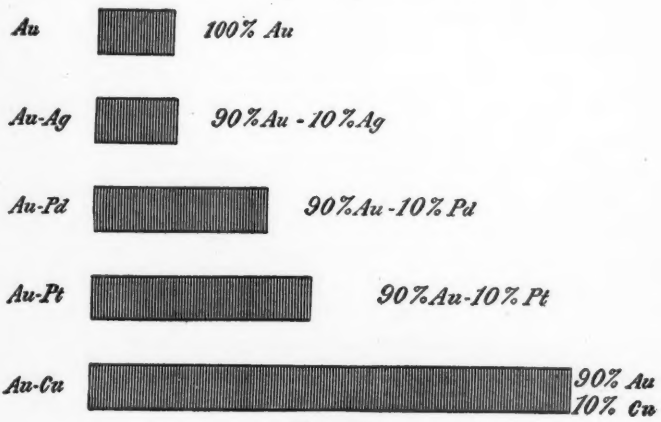


Figure 5

*Read before the Michigan State Dental Society, at its annual meeting in Detroit, on April, 9, 1918.

Copyright, 1918, by Louis J. Weinstein.

As will be seen from Fig. 5, pure silver has practically no effect on gold so far as increasing the hardness. Palladium has some hardening properties and it is well to bear that in mind when formulating an alloy. Platinum has considerably more hardening power than palladium and is a factor, but copper is the most valuable agent of them all, and in proceeding to formulate the complex alloys we must consider the copper as the principal hardening agent and the others as adjuncts.

GOLD ALLOYS FOR CROWN, BRIDGE, AND PLATE WORK

Bearing in mind the hardening power and the effect on melting point produced by the alloying elements, let us consider such a formula as the following:

FORMULA OF GOLD PLATE NO. I

	PER CENT.
Gold	88.0
Platinum	7.5
Palladium	2.5
Silver	2.0
Total	100.0

Melting point, 2075 degs. F., 1135 degs. C.

This alloy is equivalent in hardness to ordinary 22k. gold, containing 91.6 per cent. gold, 3.5 to 4 per cent. copper and 4.5 to 5 per cent. silver. Now, as the copper is the active hardening agent in the 22k. gold, and as we know from the preceding data that platinum and palladium exert somewhat less than half of the hardening influence of copper, it will be seen that the total of 10 parts platinum and palladium are about equal in hardening power to the 3.5 to 4 parts of copper usually present in 22k. gold, and thus we get an alloy equivalent in hardness to the ordinary 22k. plate.

The silver content, 2 parts, is no factor whatever, except as a color modifying agent, because it is an object to adhere to a certain standard of color throughout the whole series of alloys. As there is no copper present in this alloy, it is absolutely non-oxidizable, but the great advantage that an alloy of this character possesses over ordinary 22k. plate is the fact that its melting point is much above that of ordinary 22k. gold, approximately 225 degs. F. to 250 degs. F. higher, and instead of sweating a band and floor it may be very easily soldered with pure gold or 22k.

plate and resoldered with the same or lower grade plate gold innumerable times without any danger of burning or blistering.

Any, or all, of the alloys in the series following plate No. 3 may be safely used as solders on plate No. 1, thus permitting many soldering. operations *without danger of burning the gold*, as may occur in sweating, or the danger of the solder (if of poor quality) burning into and alloying with the gold, as often occurs when using the so-called "easy flowing" solders It is evident, therefore, that this alloy offers a great many advantages over the ordinary 22k. plate gold.

A gold alloy made from this or a similar formula, may be employed advantageously to replace soft platinum for practically all dental purposes, except directly in connection with high fusing porcelain. It is more compatible with the soft tissues of the mouth than ordinary gold, and being comparatively soft, has been utilized for a considerable time for swaged saddles, in place of platinum, which offers advantages over ordinary gold because it is less affected by the fluids of the mouth. The melting point is sufficiently higher than ordinary gold, so that it may be soldered safely with pure gold or alloys of equal or lower melting point, thereby replacing platinum for practically all purposes where it is employed in crown and bridge work, on account of its high melting point. It is equally as good as platinum for hoods used as a base for the formation of cast crowns, as the melting point is sufficiently high so it may be cast against with practically no greater danger of "burning through" than platinum, which is ordinarily employed.

GOLD PLATE NO. 2

As has been impressed by Dr. Peeso, it is absolutely essential to use for removable bridge work a hard, durable gold such as U. S. coin gold. It may be well at this time to state that U. S. coin gold contains 90 per cent. pure gold and 10 per cent. copper, whereas the so-called coin gold obtainable from most supply houses contains, as a rule, some silver, which softens it and makes it *work more easily*, and it therefore does not possess the strength and durability required.

Numerous operators have found great difficulty in utilizing coin gold for removable bridge work, and have been compelled to resort to so-called "hard" platinum, containing various percentages of iridium (3-5 per cent.) thereby consuming a great deal of platinum which should be saved.

The following formula replaces coin gold or platinum employed for the same purpose most satisfactorily:

FORMULA OF GOLD PLATE NO. 2

	PER CENT.
Gold	84.5
Platinum	8.5
Palladium	2.0
Silver	0.5
Copper	4.5
Total	100.0

Melting point, 1975 degs. F., 1080 degs. C.

In this formula, in order to obtain the equivalent hardness of coin gold, it is necessary to use copper. We can again readily see just how the hardening properties of the alloying elements are utilized. We have 4.5 per cent. copper and the platinum and palladium replace the rest of the copper, thus giving us an alloy equal to U. S. coin gold. This oxidizes, of course, to a slight extent, but the oxidation is not objectionable, and this alloy can be used to replace coin gold practically for every purpose and may be soldered with other alloys in the series which have the same color. When soldered with casting gold, C, the attachment of the floor to a band cannot open up during the final soldering unless deliberately abused, because the soldered junctions are actually higher in melting point than ordinary gold plate.

The fusing point of this alloy is approximately 225 degs. F. higher than coin gold, and it possesses all the advantages over coin that the No. 1 formula has over 22k. gold.

These alloys, Nos. 1 and 2, can be utilized to great advantage in the construction of swaged plates, both full and partial, especially where it is desired to make the plates of two or three thin layers, on account of the high melting point of the alloys which permits of thorough soldering of the laminae without danger of burning. When used in conjunction with the other alloys in the series, these golds enable the operator to produce dentures far superior to those made from the golds ordinarily employed on account of increased strength, minimized bulk and perfect color harmony throughout the whole structure.

It should be borne in mind that high fusing golds, such as these, cannot be "sweated" advantageously. This is a characteristic of all gold alloys high in platinum metals, on account of the total absence of or minimum oxidation. The "sweating" of an alloy such as coin gold is facilitated by the fact that the high oxidation of the copper content helps to prevent the flow of areas not fluxed.

A gold alloy made from this or a similar formula replaces so-called

hard platinum (containing 3-4 per cent. Ir.) in practically the same manner as formula No. 1 replaces soft platinum. The melting point is so high that orthodontia bands as thin as .003 may be soldered safely with coin gold or the highest grades of gold solder.

GOLD PLATE NO. 3

The alloy described in the following is one of the author's more recent developments and, although intended primarily for orthodontic purposes, will be found a most desirable and useful substitute for so-called 10 per cent. iridio platinum commercially available, which varies in iridium content from 7.5-10 per cent.

FORMULA OF GOLD PLATE NO. 3

	PER CENT.
Gold	66.0
Platinum	16.5
Palladium	9.0
Silver	5.5
Copper	3.0
Total	100.0

Melting point, 2200 F. 1204 degs. C.*

In this formula we have but a small percentage of copper, and a considerable percentage of platinum which, in conjunction with the copper, serves to produce the desired degree of hardness. The palladium supplements the platinum by raising the melting point, and enables the production of a uniform alloy, which could not be accomplished if the total content of platinum metals were in the form of platinum only.

The alloy melts over 250° F. above pure gold; it may therefore be soldered safely with pure gold, and as the hardness is identical with 10 per cent. iridio platinum, it serves to replace the latter in an eminently satisfactory manner, for tubing employed in removable bridge work, boxes or casings for various forms of removable bridge attachments, and numerous other purposes in dentistry where iridio platinum is required because of its high melting point, and ordinary gold or clasp metal cannot be employed because of its comparatively low melting point.

This alloy may also be employed in the form of wire for dowels or

*The Centigrade Melting Point (1070°) given in the May issue was incorrect.

posts, in Richmond and other forms of dowel crowns, but the author does not recommend it, as it is no harder than 10 per cent. iridio platinum, and the latter has proven time and time again entirely inadequate in strength and rigidity for such purposes. For such work platinum containing higher percentages or iridium has been employed to better advantage, and has been most satisfactorily replaced by the author's "Elastic" gold, which will be described later.

The practitioner will, however, find numerous other places where he may employ the No. 3 formula to advantage, in place of 10 per cent. iridio platinum, and thus aid in conserving the platinum supply. Alloys No. 2 and No. 3 are further described in the section entitled "Alloys for Orthodontic Purposes."

GOLD ALLOYS FOR PROSTHETIC CASTING

Since the introduction of the casting process, the use of alloys containing high percentages of platinum has become prevalent. When the process was first introduced, pure or slightly alloyed gold was employed, with the result that cast sections had to be made quite bulky, in order to obtain sufficient strength. Later, when the fallacy of such procedure became evident, operators turned to gold alloys containing a very high percentage of platinum, under the impression that such alloys could be employed to cast sections of smaller bulk, but of sufficient strength, because of the high platinum content, and the alleged virtues of platinum as a hardening agent. Unfortunately, a great many operators still persist in this practice.

While it is true that a very high percentage of platinum, incorporated in gold, will produce a hard, tough metal (ununiform) it must also be borne in mind that such an alloy must be brought to a very high temperature to attain sufficient fluidity for casting, with the consequence that the superheated metal, forced into a comparatively fusible mould (plaster-silica investment) invariably produces a rough and inaccurate casting. It is essential, therefore, that alloys for casting sections of bridge work, saddles, hoods, or boxes for procelain crowns, inlays, etc., etc., where strength, hardness, and durability are essential—must contain copper in a sufficient proportion to provide strength, and only sufficient platinum or platinum metals to restore the melting point lowered by the copper content.

The following two alloys have been used extensively for over five years, with most excellent results, and have served to vindicate the author's contentions on the subject in an eminently practical manner.

FORMULA OF CASTING GOLD "B"

	PER CENT.
Gold	80.0
Platinum	9.5
Palladium	2.5
Silver	1.0
Copper	7.0
Total	100.0

Melting point, 1900 degs. F., 1035 degs. C.

We have here 7 per cent. copper and a total of 12 per cent. of the platinum metals which makes an alloy considerably harder than coin gold. This alloy when in the cast form is about midway in hardness between rolled coin gold and clasp metal. The melting point of this alloy is about 50 degs. F. below pure gold. It is intended for use with the nitrous oxide blow-pipe and should be melted with same, if a considerable quantity of gold is to be cast. Sufficient quantities for small castings can be melted with the ordinary blow-pipe. The copper content being comparatively low permits of the use of the nitrous-oxide blow-pipe without any material change or deterioration of the alloy, if a suitable reducing flux is used in connection with it.

This alloy corresponds in color with plates Nos. 1 and 2 and may be used to cast cusps or cusps and contours directly to bands of either plate No. 1 or plate No. 2. It makes a particularly suitable gold for cast occlusal surfaces on account of its hardness and durability.

The next formula is a modification of "B", and brings out an interesting point in connection with the effect of copper and the platinum metals on the decrease and increase of melting points.

FORMULA OF CASTING GOLD "C"

	PER CENT.
Gold	80.5
Platinum	6.5
Palladium	2.0
Silver	2.0
Copper	9.0
Total	100.0

Melting point, 1800 degs. F., 980 degs. C.

We note in this formula an increase of two parts of copper and a decrease of a total of 3.5 parts platinum and palladium, the consequence

being that the melting point is dropped by the increase of copper and by the decrease of the platinum metals. The melting point is dropped about 100 degs. F. and brought down to approximately that of 22 k. gold. This lowering of the melting point permits this alloy to be melted readily for large or small castings with an efficient illuminating gas and air blow-pipe. It is identical in strength, hardness, color, etc., with casting gold "B," except the fusing point and resistance to the nitrous-oxide blow-pipe flame. If the latter is used, precaution must be taken to use a reducing flux and not to superheat the metal. This applies to coin gold, too, if same is cast. Excessive heat, if applied with the nitrous-oxide blow-pipe, and lack of a suitable reducing flux will permit the oxidation of considerable copper and the dissemination of oxide throughout the casting.

GOLD ALLOYS FOR INLAY CASTING

The author's remarks pertaining to the non-desirability of using high percentage platinum gold alloys for prosthetic castings, apply in an identical manner to alloys used for casting inlays. The use of alloys containing high percentages of platinum for inlay work, is both detrimental and wasteful, especially in view of the necessity for conserving platinum.

Since the introduction of the casting process, pure gold has been generally advocated for cast fillings, etc., on account of its supposed minimum shrinkage, softness and malleability and consequent ease with which the margins could be burnished to eliminate the cement line of an inlay.

A good many operators have failed to cast pure gold satisfactorily and claim that they can cast inlays with scrap gold and produce better and sharper margins. To those who have not experienced this difficulty it may appear very strange, but, nevertheless, it is a fact that alloyed gold, when properly alloyed, and under fair casting conditions, invariably casts with sharp true margins, whereas pure gold has very often failed to accomplish the purpose, both at the hands of the author and many others.

It may be well to consider that the casting of scrap gold of indefinite composition is rather a hazardous and usually unsatisfactory procedure, and a great many operators recognizing that fact are using 22k gold, coin gold, etc., with better results than they have been able to obtain with pure gold.

It is a well-known fact that pure platinum, pure palladium and pure silver absorb hydrogen, oxygen, and other gases while in the molten state

and retain some of the gases upon solidification. It is not generally known, but nevertheless true, that pure gold absorbs nitrogen, hydrogen and oxygen, and retains a considerable percentage of one or more of the absorbed gases upon solidification. This tendency on the part of the metals mentioned to absorb gases is minimized and sometimes entirely eliminated by alloying and a small percentage of copper, palladium or platinum will materially alter the behavior of pure gold upon solidification. Castings made with a slightly alloyed pure gold will be found to possess sharp margins and practically equal to pure gold in color, ductility and facility of burnishing, but comparatively free from cavities or blow-holes, such as are often found in the unalloyed gold castings.

A number of cases under observation have shown that fillings of slightly alloyed gold do not, after a period of wear, present the same pitted surface so characteristic of cast pure gold fillings under the same conditions.

The rounding of the margins in cast pure gold fillings is usually accompanied by a separation of the residue button from the casting, which takes place just prior to the completion of solidification. This occurs particularly when a comparatively large sprue is used and more especially when a large residue button is used at the same time. An explanation of this occurrence may reasonably be attributed to the following: If the sprue is quite large and the gold residue button large, the residue remains fluid for a considerable period of time after the casting pressure has been applied, and there appears to be a tendency for the large button to draw to it the gold of the casting through the medium of the large gate (the sprue). A large button of gold very often draws only part of the sprue to it, thus separating the connection between the residue button and the casting and arresting the exercise of the casting pressure which would otherwise be transmitted from the button to the sprue and then to the casting proper. For those who wish to use pure gold for casting, it is suggested that the quantity of gold used in the casting operation should not exceed more than three pennyweights above the amount actually required for the casting proper, and also that the sprue be no larger than 16 gauge B. and S. This will serve to lessen the area of connection between the casting and residue button so that this area (the sprue) may solidify more rapidly and in conjunction with the smaller button, which naturally freezes more rapidly, tend to prevent the separation previously discussed.

Another point that is well to consider is the fact that alloying of gold reduces the surface tension and cohesion of the molecules while in a molten state and increases the fluidity, thus facilitating the flow of the metal, requiring less pressure to force the gold into the mold, and con-

sequently lessening the *danger of distorting the mold.* (See investment compounds for casting.)

FORMULA OF CASTING GOLD "A"

	PER CENT.
Gold	97.0
Platinum	1.5
Palladium	0.3
Silver	0.3
Copper	0.9
Total	100.0

Melting point, 1945 degs. F., 1063 degs. C.

This alloy makes an efficient substitute for pure gold, as the comparatively small amount of alloy does not harden the gold sufficiently to prevent burnishing, nor does it affect the color perceptibly. Copper is the most suitable agent for increasing the fluidity, and the small percentage used does not materially harden the gold. The drop in melting point is compensated for by the platinum, and the small percentage of silver counteracts the coloring effect of the copper on the gold, the consequent alloy possessing practically the same melting point as pure gold and producing, almost invariably, *sound castings without the special precautions* which must be taken when pure gold is used.

This alloy will be found suitable for use in teeth close to others, with fillings or inlays made of pure gold, in order to maintain color harmony.

As all the alloys in the series, excepting casting golds "A,E,F" and the "Elastic" alloy described later, are practically of a uniform color and somewhat lighter (grayish red) and less conspicuous than pure gold or coin gold, it has been found advisable to also formulate an alloy for casting inlays to harmonize in color with the rest of the series.

FORMULA FOR CASTING GOLD "D"

	PER CENT
Gold	95.0
Palladium	3.3
Silver	0.4
Copper	1.3
Total	100.0

Melting point, 1945 degs. F., 1063 degs. C.

In this alloy, the palladium decolorizes the pure gold and raises the

melting point. The copper brings it back to the pure gold standard and by the addition of the small percentage of silver to counteract the reddening effect of the copper a color effect is obtained in perfect harmony with the rest of the series.

This gold is quite soft and malleable and may be burnished with practically the same facility as pure gold. This question of burnishing margins of inlays is rather a more or less definite procedure. It is the author's opinion that very little effective burnishing (spinning) can be done on inlay margins, and that only after the margins are stoned down to an extremely thin edge. Experience has shown that it is advisable to use hard and durable alloys for inlays, expecially those intended to aid in supporting bridge work and then only when supplemented with posts or dowels.

This alloy "D" can be combined with "B" or "C" to obtain harder alloys, with no difficulty and no change in color, thus enabling the operator to obtain practically any degree of hardness for special requirements in inlay casting.

(*To be continued in August*)

WHAT IS A THRIFT STAMP?

A Thrift Stamp sometimes seems to me
A small, persistent enemy;
It will not let me take a hack,
But bids me walk from Here to Back;
It shakes its head what time I say
"I'd love to see this matinee!"
And at a new spring bonnet it
Gives indications of a fit.
In short, 'tis like some prudent spouse
Who will not let her mate carouse,
But tucks the pennies all away
To save against that rainy day
When o'er his head she'll proudly lift
The green umbrella of her thrift.

O small, persistent, nagging friend,
How I shall love you at the end—
And say, as thankful husbands do,
"All this, my dear I owe to you."

PERMANENT WORK FOR JUVENILE PATIENTS

By Ross P. Williams, D.D.S., Pittsburgh, Pa.

The successful handling of children in dental operations has bothered many a skilled operator unnecessarily. Why is this so? What was your attitude to the dentist when you were a child? Do you handle your juvenile patients as you would have had them treat you when but a "tot"?

A normal child hates to be fooled. When a child with implicit confidence in you asks whether there will be any pain, do you tell the truth? If the particular operation is apt to cause pain, tell your patient so.

A normal child likes to do what he is not allowed to do, and nine times out of ten if told he dare not do a certain thing, just for the adventure will test out your mandates. Do you then always tell your little patients that they must keep perfectly still and quiet while in the chair? Do you admonish them not to dare to cry if a certain operation hurts a trifle? If you do, you are doomed to failure by this attitude. Gain their confidence and tell them they can cry if it hurts, and even laugh and hum a familiar melody when the pain is rather severe. Generally when they are told of the fact that it is not a mortal sin to cry in the dental chair they will not resort to it.

Normal children are fearful of force, and recoil at the very thought of such a thing. Tell them beforehand when the pain will be severe, and have them hold the arms of the chair so as to be prepared. Never attempt to perform work by force, by that I mean holding the patient forcibly in the chair, as permanent and lasting restorations can not be accomplished. If you want your little patient to fear you, just do this very thing. Confidentially, being frank with yourself, have you not always balked when you were conscious that force was resorted to without cause? Be mindful of this when your next timid little patient comes into your office.

Study each patient that you come in contact with, as you know they are all different. Some it is impossible to do anything with. Learn to know this class. Find out from them what they are interested in, and if you are friendly at heart the little ones will tell you some things of intrinsic value. With one experience I will bring this article to a close.

A high-strung, nervous boy was brought to me by his mother asking me to do some temporary work for her son, so as to alleviate the pain, and perhaps at some future time when the boy was in better physical shape to go over the work and make it more permanent, as in her estimation his condition would not allow now. I told her I would do my best. This

nine year old boy proved to be a model patient. I found out that he was intensely interested in miniature soldiers. That was my cue. I told him I was about to make trenches in his teeth, and of course once in a while there would be pain manifested in such gigantic operations of this kind of warfare, and impressed upon him that a brave soldier knows no fear under fire. Then after the trenches are made they must be filled in with shot or metal to make them permanent. With a knowledge of children's ways, the application of the Golden Rule, and perseverance on your part, permanent work for juvenile patients will become a joy in the field of preventive dentistry.

INSTANCES OF THE RELATION OF APICAL FOCI TO SYSTEMIC CONDITIONS

By Fred D. Miller, D.D.S., Altoona, Pa.

PAPER NO. FOUR

A CASE OF DUODENITIS

Mr. D., aged 40 years, had been suffering for six weeks with constipation and pain in the duodenum. His physician diagnosed it as a case of duodenitis. During this six weeks he had been unable to produce a normal bowel movement without "taking something." He was frequently compelled to remain away from his work and suffered a good deal of spasmodic pain. Treatment had consisted in the administration of cathartics, regulation of the diet and palliative treatment. No improvement was manifested and he decided to go to Philadelphia to consult a specialist.

One day while at the gymnasium I met his brother who related the above facts. I knew that at least two of D's teeth justified suspicions as to their apical conditions, and I said to his brother that I wished that before he went to Philadelphia he would come to the office so that I might learn whether there was any focal infection. I had previously tried to persuade him to permit me to remove the artificial crowns on several teeth and fill the roots, but he had declined because he was "too busy."

He came to the office on the day following my talk with his brother, and I radiographed four suspicious teeth, two of which proved to be in good condition. The other two teeth showed extensive radiopaque

(Figures 1 and 2) areas reaching halfway from the apices to the gingival margins. The natural crown of one of these two teeth was perfect. The pulp must have died as a result of traumatic occlusion. The bone destruction about the root was so extensive as to contraindicate apicoectomy. Both teeth were removed and the sockets curetted on Friday.

Fig. 1

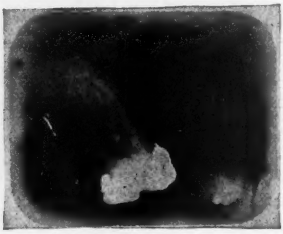


Fig. 2

On Saturday he suffered several attacks of pain, but they were less frequent than formerly and were milder. From the time of his visit to the office he stopped taking internal medicine in order that we might see just what the results of the extraction would prove to be. On Sunday he had a normal bowel movement for the first time in six weeks, and these have continued since that time.

From that time to this he has been entirely free from all indications of distress or pain and has not had occasion to "take something."

WORK FOR WAR-MAIMED MEN

By C. A. Starr, Y. M. C. A.

Many thousands of men maimed in the battle for democracy will be trained back to usefulness and given a trade in a technical school just acquired by the West Side Y. M. C. A., 318 West Fifty-seventh street. The announcement is made to-day that this institution has taken over the Dental Laboratories, Inc., at 25 West Forty-fifth Street, a school for mechanical dentistry. As this is bench work chiefly, men who come back minus a leg or otherwise maimed, so that they have two hands with which to work, will be able to learn this trade, where only a nimble brain and fingers are necessary.

The school was started three and one-half years ago by George and Nicholas Bonsignore, young Italians with a vision and ambition, but,

unfortunately, with limited capital. The school grew until they could not handle it without financial reorganization, for which the time seemed unpropitious. Therefore they came to the Y. M. C. A. which has several technical schools, and the deal has been consummated within the past few days, which put the Red Triangle over the door of this additional school. The Bonsignore Brothers will remain in charge of the teaching, with E. G. Babcock, of the West Side staff in charge of the business end. Mr. Babcock was at one time private secretary for John Wanamaker, and has been a successful advertising man.

This school can accommodate 150 students at a time for 600 hours of actual laboratory work, beginning with the rubber work and including work in cement, plaster, silver and gold. It does not require a college education, but does require deftness with small tools. For this reason it is particularly suitable to reconstructed fighting men who are left both hands.

E. L. Wertheim, educational director, said that the new school was a natural addition to the technical department, formerly comprising automobile, airplane mechanics, printing, and motion picture machine, and that the strong incentive in acquiring it was to be ready for the men already being sent back to this country to be patched up and started over in civic life. He thought the increased interest in the care of the teeth through the propaganda of the board of education means a rapid expansion of dentistry, and therefore a need for mechanical dentists. Mr. Wertheim's department in the year drawing to a close will have a total of about 6,000 students, more than half in the technical schools. In these schools the work is practical, the students being put to work doing the things they must master, finding all the problems and being taught the solution by specialists, with small classes and individualized instruction. The plan will be followed in the latest school acquired.

A CORRECTION

Through an error in copy in the April issue of the DENTAL DIGEST, the Board of Dental Examiners of the District of Columbia was represented as registering Dental College Diplomas without an examination. The District of Columbia requires all applicants to be dental graduates, and to pass a thorough examination (lasting four days) in both theory and practice, and the standard is high.

We regret this error, especially as it has caused Dr. W. M. Simkins, Secretary of the Board, a great deal of annoyance and unnecessary work in answering correspondence from all over the country.

CURSES OF DENTISTRY

By V. A. Wood, D.D.S., Dell Rapids, S. D.

[This author says much that is true, but there appears to be a few wee obstacles to carrying out his recommendations. To take only one with which I am somewhat familiar, it is often difficult to get men who know and practice only what is best to write articles, and then they sometimes write poorly.

There are numerous agitations and movements to eliminate what he calls "Curses of Dentistry," and they should have our support. I hope he has already seen to it that all these "Curses" have been removed from his own State.—Editor.]

It is with a great deal of interest and profit that I read the different articles contributed by the profession; each, of course, bringing out the viewpoint of the individual so writing. In many cases every operation, unless advanced by them, is condemned, and the sad part, and the one that causes much trouble, suffering, loss of teeth and sickness, if not death, is that many opinions are published that are read by students just out of college that are an actual menace to society. Also advertisements that appear in the different journals, mummifying pastes, and claiming that its application will keep the tooth without removing the pulp, and many others of like nature that work destruction to the teeth, health of the patient, and a stigma on the profession, as many dentists, like other mortals, are lazy and looking for an easy way.

I have not read an article along this line, as each one tells you what to do. I think it would be far better if more were written telling what *not* to do.

Every article contributed for publication should be censored by a capable committee and not allowed to appear in print if it in any manner is not for the best and highest standard of efficiency. The same should be done by all advertisements and those suppressed that are misleading and vicious, for a great many people, dentists with others, believing everything they see in print, not realizing that it may be only the wanderings of a disordered mind, or the channel through which some individual is trying to gain prominence and notoriety at the other fellow's expense.

You read so much in these times of the extraction of teeth, and the wonderful things the X-ray is showing up. This is very true, but why is it showing these conditions to be true? Because some so-called dentist has been allowed to perform malpractice on an unsuspecting public. Every practitioner of any standing and experience knows this to be true. We have often opened up a tooth that has been filled and was giving

trouble, to find a pledget of cotton beneath the filling; occasionally some fibres are carried down in the root canals. In other cases you find some gutta-percha jammed in the pulp chamber, with an attempt at either removing pulp or attempted root filling. In other cases you have found what pulp could be removed easily, taken out, a little paste of some advertised fame placed over the remaining pulp, a little temporary stopping pressed into the pulp chamber, and a filling placed on that. Each and every one of you, I say, has uncovered just such conditions as these. You all know what happens in these cases. There is but one way to prevent these conditions, and that is to prevent its practice.

If the state societies, or national, would take this condition by the horns, and every man who finds conditions like these to appear, ascertain from the patient if possible who did the work, report him to the committee in charge, they to write him for his record, and if he is guilty, put him out of business. The public is, and would be, much better off without such bunglers as these plying their nefarious work, and the profession at large would be greatly benefited and stand on a much higher plane of efficiency.

Laws framed to this purpose could easily be enacted if backed by the profession, and the ones passing out this kind of work and calling it dentistry, would be mighty shy about performing it, and there would not be the wholesale destruction of teeth that is now going on.

I have extracted teeth that had the canals filled with iodoform powder and creosote, together with gutta-percha points that were in excellent condition and had been doing service for eighteen to twenty years. The only reason for extracting was that they were in the way of a properly fitting denture. Don't let this kind of work go on, and much more will be accomplished than by some one person trying to tell you to follow in his footsteps, and you will be all right.

The Dental Colleges are to a great extent at fault for allowing many they do to leave their institutions with a D. D. S. degree. The public looks upon one dentist much the same as another, and have a right to, but the fact is, the good man, and the profession as a whole have to suffer for the acts of the incompetent.

Make laws to this end, and enforce them, and dentistry will begin to advance and do good to humanity to a greater extent than it is doing at the present time.

If some of the so-called "lights" will get busy along these lines they can accomplish much, but I have uncovered just such work as above described, performed by men holding State Board positions. Too many do not practice what they preach.

THE DUTY OF THE EMPLOYER IN THE RECONSTRUCTION OF THE CRIPPLED SOLDIER

By Douglas C. McMurtrie
DIRECTOR RED CROSS INSTITUTE FOR CRIPPLED AND DISABLED MEN
NEW YORK CITY

[There will be many dental offices in which certain of the type of men referred to in this article can be taught to do excellent laboratory work, so that they will benefit the dentists and themselves.

Some of these crippled men will possess keen minds and skilled fingers. They may not be strong enough to hustle all day in a busy shop, but they may be just the men for a dental laboratory with its light work, moderate pace, and mechanical attractiveness and many a dentist who is doing things he would gladly have done if he could find the right assistant may find here the help he needs.—Editor.]

We must count on the return from the front of thousands of crippled soldiers. We must plan to give them on their return the best possible chance for the future.

Dependence cannot be placed on monetary compensation in the form of a pension, for in the past the pension system has proved a distinct failure in so far as constructive ends are involved. The pension has never been enough to support in decency the average disabled soldier, but it has been just large enough to act as an incentive to idleness and semi-dependence on relatives and friends.

The only compensation of real value for physical disability is rehabilitation for self-support. Make a man again capable of earning his own living and the chief burden of his handicap drops away. Occupation is, further, the only means for making him happy and contented.

Soon after the outbreak of hostilities the European countries began the establishment of vocational training schools for the rehabilitation of disabled soldiers. They had both the humanitarian aim of restoring crippled men to the greatest possible degree and the economic aim of sparing the community the burden of unproductivity on the part of thousands of its best citizens. The movement had its inception with Mayor Edouard Herriot of the city of Lyons, France, who found it difficult to reconcile the desperate need for labor in the factories and munition works while men who had lost an arm or a leg but were otherwise strong and well were idling their time in the public squares. He therefore induced the municipal council to open an industrial school for war cripples which has proved the example and inspiration for hundreds of similar schools since founded throughout France, Italy, Germany, Great Britain, and Canada.

The disability of some crippled soldiers is no bar to returning to their

former trade, but the injuries of many disqualify them from pursuing again their past occupation. The schools of training prepare these men for some work in which their physical handicap will not materially interfere with their production.

The education of the adult is made up largely of his working experience. The groundwork of training in his past occupation must under no circumstances be abandoned. The new trade must be related to the former one or be, perhaps, an extension or specialization of it. For example, a man who had done manual work in the building trades may by instruction in architectural drafting and the interpretation of plans be fitted for a foreman's job, in which the lack of an arm would not prove a serious handicap. A trainman who had lost a leg might wisely be prepared as a telegrapher, so that he could go back to railroad work, with the practice of which he is already familiar.

Whatever training is given must be thorough, for an adult cannot be sent out to employment on the same basis as a boy apprentice. He must be adequately prepared for the work he is to undertake.

The one-armed soldier is equipped with working appliances which have supplanted the old familiar artificial limb. The new appliances are designed with a practical aim only in view; they vary according to the trade in which the individual is to engage. For example, the appliance for a machinist would be quite different from that with which a wood turner would be provided. Some appliances have attached to the stump a chuck in which various tools or hooks can interchangeably be held. The wearer uses these devices only while at work; for evenings and holidays he is provided with a "dress arm" which is made in imitation of the lost natural member.

An important factor in the success of re-educational work is an early start, so that the disabled man shall have no chance to go out unemployed into the community. In even a short period of exposure to the sentimental sympathy of family and friends, his "will to work" is so broken down that it becomes difficult again to restore him to a stand of independence and ambition. For this reason, therefore, the plan for his future is made at as early a date as his physical condition admits, and training is actually under way before the patient is out of the hospital.

In the readjustment of the crippled soldier to civilian life, his placement in employment is a matter of the greatest moment. In this field the employer has a very definite responsibility.

But the employer's duty is not entirely obvious. It is, on the contrary, almost diametrically opposite to what one might superficially infer it to be. The duty is not to "take care of" from patriotic motives, a given number of disabled men, finding for them any odd jobs which are

available, and putting the ex-soldiers in them without much regard to whether they can earn the wages paid or not.

Yet this method is all too common. A local committee of employers will deliberate about as follows: "Here are a dozen crippled soldiers for whom we must find jobs. Jones, you have a large factory; you should be able to take care of six of them. Brown, can you not find places for four of them in your warehouse? And Smith, you ought to place at least a couple in your store."

Such a procedure cannot have other than pernicious results. In the first years of war the spirit of patriotism runs high, but experience has shown that men placed on this basis alone find themselves out of a job after the war has been over several years, or in fact, after it has been in progress for a considerable period of time.

A second weakness in this method is that a man who is patronized by giving him a charity job, comes to expect as a right such semi-gratuitous support. Such a situation breaks down rather than builds up character, and makes the man progressively a weaker rather than a stronger member of the community. We must not do our returned men such injury.

The third difficulty is that such a system does not take into account the man's future. Casual placement means employment either in a make-shift job as watchman or elevator operator such as we should certainly not offer our disabled men except as a last resort—or in a job beyond the man, one in which, on the cold-blooded considerations of product and wages, he cannot hold his own. Jobs of the first type have for the worker a future of monotony and discouragement. Jobs of the second type are frequently disastrous, for in them a man, instead of becoming steadily more competent and building up confidence in himself, stands still as regards improvement and loses confidence every day. When he is dropped or goes to some other employment, the job will have had for him no permanent benefit.

Twelve men sent to twelve jobs may all be seriously misplaced, while the same twelve placed with thought and wisdom and differently assigned to the same twelve jobs may be ideally located. If normal workers require expert and careful placement, crippled candidates for employment require it even more.

The positive aspect of the employer's duty is to find for the disabled man a constructive job which he can hold on the basis of competency alone. In such a job he can be self-respecting, be happy, and look forward to a future. This is the definite patriotic duty. It is not so easy of execution as telling a superintendent to take care of four men, but there is infinitely more satisfaction to the employer in the results, and infinitely

greater advantage to the employee. And it is entirely practical, even in dealing with seriously disabled men.

A cripple is only debarred by his disability from performing certain operations. In the operations which he can perform, the disabled man will be just as efficient as his non-handicapped colleague, or more so. In the multiplicity of modern industrial processes it is entirely possible to find jobs not requiring the operations from which any given type of cripples are debarred. For such jobs as they can fill the cripple should be given preference.

Thousands of cripples are now holding important jobs in the industrial world. But they are men of exceptional character and initiative and have in general, made their way in spite of employers rather than because of them. Too many employers are ready to give the cripple alms, but not willing to expend the thought necessary to place him in a suitable job. This attitude has helped to make many cripples dependent. With our new responsibilities to the men disabled in fighting for us, the point of view must certainly be changed. What some cripples have done, other cripples can do—if only given an even chance.

The industrial cripple should be considered as well as the military cripple, for in these days of national demand for the greatest possible output there should not be left idle any men who can be made into productive workers.

With thoughtful placement effort, many men can be employed directly on the basis of their past experience. With the disabled soldiers who profit by the training facilities the government will provide, the task should be even easier.

This, then, constitutes the charge of patriotic duty upon the employer:

To study the jobs under his jurisdiction to determine what ones might be satisfactorily held by cripples. To give the cripples preference for these jobs. To consider thoughtfully the applications of disabled men for employment, bearing in mind the importance of utilizing to as great an extent as possible labor which would otherwise be unproductive. To do the returned soldier the honor of offering him real employment, rather than proffering him the ignominy of a charity job.

If the employer will do this, it will be a great factor in making the complete elimination of the dependent cripple a real and inspiring possibility.

DENTAL LAWS

1918 DENTAL LICENSE REQUIREMENTS IN THE UNITED STATES OF AMERICA

By Alphonso Irwin, D.D.S., Camden, N. J.

UNIVERSAL REQUIREMENTS

All applicants for a dental license must undergo an examination. All examinations and writings must be conducted in the English language. Certain boards "exercise their discretion about granting a license without an examination."

The applicant must have reached the age of 21 years or over, possess a good moral character, certified to by two licensed ethical dentists; under reciprocity the endorsement of two resident freeholders is required.

New laws require a four years' course accredited High School education.

All boards require a Dental Degree from a reputable College, countersigned by the Secretary, Registrar, Dean or Provost.

Must present a properly filled out and attested application, accompanied by a recent ummounted cabinet-sized photograph, signed by himself, and attested to by the photographer, or by the Dean or Secretary of the college.

Credentials must be presented to the Secretary of the board at least one or two weeks prior to the examinations, including all licenses, if any, in possession of the candidate.

The license fee (ranging from $10 to $25) to be paid by a certified check or post office money order or cash.

The candidate must present himself at the proper time and place to undergo a practical and theoretical examination before the Board of Examiners upon subjects and tests usually taught in a standard dental college.

Alabama: New law, 1915. Preliminary education, four-year High School diploma or its equivalent, fourteen standard units, dental degree from a reputable dental college. Examination fee $20.00, certificate $5.00. All applicants examined. June meeting in Tuscaloosa or Birmingham, each year. Interchange with Illinois, Kentucky, and Louisiana. Registration with Probate Court in County where practice is conducted.—*Sect'y*, H. Clay Hassell, Tuscaloosa, Alabama.

Arizona: New law, 1913. *Non-graduates not admitted* to examinations, unless they hold a license from another state. All candidates examined and *dental degree required.* License fee $25.00. October meeting in Phoenix; June in Bisbee. No interchange. Registration with Secretary of State.—*Sect'y,* EUGENE MCGUIRE, 202-203 Noll Bldg., Phoenix, Arizona.

Arkansas: New law, 1915. *Dental diploma required.* All applicants examined. License fee $15.00. November meeting in Little Rock. Interchange with Illinois, Kansas, Missouri.—*Sect'y,* I. M. STERNBERG, Fort Smith, Arkansas.

California: Amended law, 1915. Accredited High School diploma after August 1, 1918. Dental degree required. No interchange. License fee $25.00. May or June and December examinations held in San Francisco and Los Angeles. Registration with County Clerk.—*Sect'y,* C. A. HERRICK, 133 Geary Street, San Francisco, Cal.

Colorado: Law amended, 1905. Recognized High School Certificate and Dental Degree required. All applicants examined; examinations, practical and theoretical, held during June and December in Denver. License fee $25.00. No interchange.—*Sect'y,* R. C. QUICK, 310 Metropolitan Bldg., Denver, Colorado.

Connecticut: New law, 1915. Dental degree required. "Lawful practitioners of three years' standing examined." Law permits interchange, but none reported. June and December examinations in Hartford. License fee $25.00. Dental Hygienists licensed; fee $5.00. Recorder, EDWARD EBERLE, 902 Main St., Hartford, Conn.

Delaware: Law amended, 1915. Requirements unchanged. Law permits interchange; none reported. October examinations in Wilmington. License fee $20.00. *Sect'y,* C. J. KINKEAD, 828 Washington St., Wilmington, Delaware.

District of Columbia: Dental degree required. January and June examinations in Washington University. Fee $10.00. Interchange with Iowa, Kansas, Minnesota, Nebraska, Ohio, West Virginia. Apply to Secretary for Blanks.—*Sect'y,* W. M. SIMKINS, 720 Woodward Bldg., Washington, D. C.

Florida: Law of 1911. Dental degree required. January and

June examinations in Jacksonville. Examination held in Jacksonville. No interchange. License fee $25.00.—*Sect'y*, R. P. TAYLOR, St. James Bldg., Jacksonville, Florida.

Georgia: Law approved 1909. Dental degree required. Examinations usually held during January and June in either Atlanta or Brunswick. No interchange. Temporary licenses issued, fee $5.00. Regular license $10.00. Registration with Board of Dental Examiners and County Clerk.—*Sect'y*, D. D. ATKINSON, Brunswick, Georgia.

Idaho: 1909, Amended law; original Act approved Feb. 16th, 1899. Examinations required with or without diploma; five years' practice accepted. January and July examinations held in Boise. Licenses exchanged with Utah. License fee, $25.00.—*Sect'y*, A. M. JACOBSON, 255 E. Centre St., Pocatello, Idaho.

Illinois: The Illinois requirements are typical, and with few alterations could apply to nearly all State Dental examinations.

Amended law 1915. Diploma from an accredited High School (4 years' course) or its equivalent; dental degree required. Theoretical examinations in anaesthesia, anatomy, bacteriology, chemistry, embryology, histology, materia medica, metallurgy, operative dentistry, oral surgery, oral hygiene, pathology, orthodontia, physiology, prosthetic dentistry, therapeutics, in their relation to dentistry.

Practical examinations consist of one gold and one amalgam filling. The Board may substitute an additional gold filling or inlay. (Applicant must furnish all instruments and materials.)

Prosthetic work, plaster casts, also impressions of full upper and lower denture; also bite, occlusion mounted or anatomical articulator and trial plate ready for the mouth; construction of lower molar gold crown is required; the Board may substitute other work.

June and November examinations in Chicago.

Points in Grading: Prosthetic—First, Treatment of the impression to secure retention; Second, Selection and general arrangement of the teeth. Occlusion—Third, Contour or restoration of the features.

Crown Grading: First, Preparation of the tooth; Second, Adaptation of band to root; Third, Seclusion form; Fourth, Finish.

Examination fee $20.00. Examination in Room 217, County Building, Chicago; practical work, 31 W. Lake St., Dental School, Northwestern University. License $5.00. Registration $1.00.

Reciprocity with Alabama, Arkansas, Indiana, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Missouri, Michigan, Nebraska, Ohio,

Vermont, Wisconsin.—*Sec'y*, EZRA F. HAZELL, 608 E. Capitol Ave., Springfield, Illinois.

Indiana: Law amended 1913. Preliminaries: College entrance credentials; diploma from a recognized dental college. All applicants examined. June and November examinations in Indianapolis. License fee $20.00. Reciprocity with Illinois, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Nebraska, Ohio, upon the following terms:

"Any applicant who has been in legal and ethical practice in any of the above states for not less than five years, and who is a member of the State Dental Society, and has the recommendation of the Board and Dental Society of his state, may be admitted to our examination at any regular meeting and excused from all theoretic examination, being required to pass the practical tests only."—*Sec'y*, H. C. MCKITTRICK, 309 Board of Trade Bldg., Indianapolis, Indiana.

Iowa: Law amended, 1904. Graduation from a High School, four years' course, or equivalent; graduation from an accredited Dental College. June and December examinations held in Des Moines or Iowa City. Reciprocity with District of Columbia, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, Tennessee, Vermont, Wisconsin. License fee $20.00. Practical work consists of gold filling, amalgam filling, inlay, a crown, setting up full upper and lower denture to point of flasking. Registration with the Secretary of the Board and the County Clerk.—*Sec'y*, J. A. WEST, 417 Utica Building, Des Moines, Iowa.

Kansas: Law of 1909. Diploma from High School (four-year course) or equivalent; graduation from dental college. June and December examinations held in Topeka. Reciprocity with District of Columbia, Illinois, Indiana, Michigan, Minnesota, Ohio, Tennessee. License fee $25.00.—*Sec'y*, G. L. AMBROSE, El Dorado, Kansas.

Kentucky: Amendments enacted March, 1912. College entrance credentials for preliminaries; graduation from a dental college. June and December examinations in Louisville. Reciprocity with Alabama, Illinois, Indiana, Kansas, Missouri, Tennessee, Vermont. License fee $20.00. Registration with State Board of Dental Examiners and County Clerk; annual license renewal before December 31st each year with Secretary of Board; fee $1.00.—*Sec'y*, J. H. BALDWIN, 640 Atherton Bldg., Louisville, Kentucky.

Louisiana: Amended law, 1906. College entrance requirements for preliminaries; dental degree from an "accepted" dental college; semi-annual examinations, probably April and October, in New Orleans; license fee $25.00. Reciprocity with Alabama, Illinois, Mississippi, Ohio, Wisconsin. Registration with Secretary of Board of Health, fee $1.00, and Parish Clerk of Court.—*Sect'y,* V. K. Irion, 935 Maison Blanche Bldg., New Orleans, Louisiana.

Maine: Amended law approved April 1, 1915. Dental degree required. Examinations held in State House, Augusta, probably in June and September. Law permits interchange; none reported. Fee $20.00; for third examination $10.00. Next examination in the State House, Augusta, Maine, July 1, 2, and 3, 1918.—*Sect'y,* WILL S. PAYSON, Castine, Maine.

Maryland: Amended law, 1896. Dental degree required. May and November examinations each year in Baltimore. "Theoretical examinations in Anatomy, Physiology, Chemistry, Bacteriology, Oral Surgery, Operative and Prosthetic Dentistry, Pathology, Therapeutics and Materia Medica." Practical requirements: "Insertion of one gold and one amalgam filling in the mouth and the submission of Bridge of not less than four crowns, two of which shall be porcelain, the parts being assembled and invested in advance and soldered in the presence of the Board." May interchange; 10 years' practice required. License fee $10.00.—*Sect'y-Treasurer,* F. F. DREW, 701 N. Howard St., Baltimore, Maryland.

Massachusetts: Law approved May 31, 1915. Dental diploma required. June and December examinations in State House, Boston. Board chooses subjects of practical examinations prior to each examination. Law permits interchange; no agreements so far. License fee $20.00. Dental hygienists examined and licensed, fee $10.00.—*Sect'y-Treasurer,* GEO. H. PAYNE, 29 Commonwealth Avenue, Boston, Mass.

Michigan: Law amended 1913. High School diploma or 15 units; dental degree required. June and December examinations held in Ann Arbor. License fee $20.00. Interchange with Illinois, Indiana, Iowa, Kansas, Minnesota, Nebraska, Ohio, Pennsylvania, Wisconsin. *Sect'y-Treas.,* B. S. SUTHERLAND, Oswosso, Michigan.

Minnesota: Law amended 1911. Dental degree required. March and November examinations in State University at Minneapolis. Reci-

procity with District of Columbia, Indiana, Iowa, Kansas, Michigan, Nebraska, Ohio, Wisconsin. Reciprocity fee $50.00. Regular license fee $20.00. Examinations at University of Minnesota.—Address *Secretary-Treasurer*, C. W. BENSON, 323 New Jersey Building, Duluth, Minnesota.

Mississippi: Amended law, 1912. Temporary license issued. Fee $10.00. High School Certificate and dental degree required. June examinations held in Jackson. Regular license fee $10.00. Examination in Jackson.—Address *Secretary-Treasurer*, B. J. MARSHALL, Marks, Mississippi.

Missouri: Law approved April 10, 1917. "15 units of credit," and "certificate in another state or dental diploma required." June and October examinations in Jefferson City. Fee $25.00; re-examination $10.00. Examinations in Jefferson City. Certificate license $1.00. Reciprocity with Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Nebraska, Oklahoma and Vermont. Annual renewal of license with Secretary of Board prior to November 30th each year.—Address *Secretary-Treasurer*, V. R. MCCUE, Cameron, Missouri.

Montana: Law amended 1909. Five years' practice or dental diploma required. No interchange; law permits it; fee $50.00. Examinations second Monday in January and July in Helena. License fee $25.00.—Address *Secretary-Treasurer*, G. A. CHEVIGNY, 107 Clark Building, Butte, Montana.

Nebraska: Law approved 1905. High School Certificate or 14 Carnegie Units. Five years' apprenticeship or dental degree. June and November examinations in Omaha. License fee $20.00. Interchange with District of Columbia, Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Ohio, Oklahoma, Tennessee, Vermont.—*Secretary-Treasurer*, S. A. ALLEN, Loup City, Nebraska.

Nevada: Law approved 1905. High School and Dental diplomas required. June and December examinations in Reno or Carson City. No interchange, but law permits it; Five (5) years' licensed practice in another state or apprenticeship for four (4) years admits to examinations (clinical and prosthetic).—Address *Sect'y-Treas.*, WM. H. CAVELL, Carson City, Nevada.

New Hampshire: Law approved May 19, 1913. High School and dental diplomas. June and December examinations in Manchester.

Written examinations in anatomy and oral surgery, physiology, chemistry and metallurgy, materia medica and anaesthetics, operative and prosthetic dentistry, pathology and therapeutics, histology, and bacteriology. Practical examinations consist of gold and amalgam and synthetic fillings, inlay preparation (optional), soldering 4-tooth bridge, one abutment being a Richmond crown; articulating either a full upper or lower set of artificial teeth. Fee $20.00. Dental nurse legalized, fee $5.00. Interchange with Massachusetts, Vermont. Examination about the last week in June, in Manchester. Registration with the Secretary of State and Secretary of State Board of Dental Examiners.—*Sect'y*, H. L. WATSON, 913 Elm Street, Manchester, N. H.

New Jersey: Amended law 1916. Approved four years' High School diploma or equivalent and certificate of State Supervisor of Public Instruction; also dental degree required. Interchange cancelled, although law permits it. June and December examinations in Trenton. License fee $25.00. Re-examination $10.00. Written examinations upon subjects usually taught in a standard dental college.

Practical test: Approximal gold filling with approximating tooth in position, compound approximal filling of amalgam, a silicate filling, test in oral prophylaxis, preparation of a cavity for an inlay, with wax pattern of same.

Prosthetic tests: Soldering bridge three or more teeth, exclusive of abutments, and one Richmond crown which may be one of the abutments; material used, gold or silver. Impressions, dies and articulating models must be submitted. Wax bite, anatomical articulation of a full upper and lower denture (plain teeth) imbedded in wax on trial plate, must be submitted. Annual registration with the Secretary of the board; fee $2.00.—*Secretary*, J. G. FORSYTH, 430 E. State Street, Trenton, N. J.

New Mexico: Law amended March 21, 1907. Diploma from a dental college. No interchange. June examinations in Santa Fe or Albuquerque. License fee $25.00. Examination in Albuquerque.—*Secretary*, A. J. MORAN, Deming, New Mexico.

New York: Law amended Sept. 1, 1916. Four years' registered High School or equivalent, 72 Regents' Counts, and dental diplomas required. After January 1, 1921, a diploma from a four years' course registered dental college will be necessary. June and December examinations in New York usually (sometimes in Albany and Buffalo). License fee $25.00. Theoretical examinations in Anatomy, Chemistry, Metallurgy, Operative and Prosthetic dentistry, Therapeutics, and Materia

Medica, Physiology and Hygiene, Oral Surgery, Pathology, Histology. "No reciprocity at present." Oral Hygienists (females) examined and licensed; fee $5.00. Examination simultaneously in Albany, Buffalo, and New York. Registration with clerk of initial county of practice. Annual re-registration with the Secretary of the Board prior to September 1st; fee $2.00.—*Sect'y*, MINOR J. TERRY; (Professional examinations) State House, Albany, New York.

North Carolina: New law, March 9, 1915. High school or equivalent, dental degree January and June examinations in Durham. License fee $20.00. No reciprocity. Practical examinations consist of one gold, one amalgam, and one enamel filling; also models of an edentulous mouth upon which applicant will be required to set up and articulate a full set of Trubyte teeth. Next examination at Wrightsville Beach, Wilmington, N. C. Registration with Clerk of Superior Court and Secretary of Board.—*Sect'y*, F. L. HUNT, Asheville, North Carolina.

North Dakota: Law amended 1915. Entrance requirements for state university or four years' High School and dental diplomas. January and July examinations in Fargo; fee $25.00. Practical requirements: "The making of gold foil and amalgam operations; a gold crown and a porcelain crown and a set of teeth." Reciprocity with "Those states having and maintaining the same requirements." Reciprocity fee $50.00. Examination in Fargo, July (second Tuesday), 1918. Renewal registration with the Secretary of the Board before July 1st each year, fee $2,00. —*Sect'y*, W. E. HOCKING, Devils Lake, North Dakota.

Ohio: Amended law, 1915. Requirements, First Grade High School Diploma; graduation from a dental college. Examinations fourth Monday in June and October in State University, Columbus. License fee $25.00. Practical requirements: Gold, amalgam, and synthetic fillings; articulating of a full denture and making a Richmond crown. Reciprocity with District of Columbia, Iowa, Indiana, Kansas, Louisiana, Michigan, Minnesota, Nebraska, Tennessee, Wisconsin. Next examination in Columbus.—*Sect'y*, R. H. VOLLMAYER, 947 Nicholas Bldg., Toledo, Ohio.

Oklahoma: Law approved March 28, 1913. Requirements, High School and dental diplomas. June and December examinations in Oklahoma City. License fee $25.00. Law permits reciprocity; no agreements.—*Sect'y*, HARRY OVERBY, Ryan, Oklahoma.

Oregon: Law amended 1916. Dental degree required. June and

November examinations in Portland or Salem. License fee $25.00. No temporary permits and no interchange.—*Sect'y*, H. H. OLINGER, Salem, Oregon.

Pennsylvania: Amended law, 1915. Requirements: Four years' course High School or its equivalent, 60 counts (held prior to matriculation) and dental diploma. After January 1, 1921, dental degree from a four years' course registered dental college. June and December examinations held simultaneously in Philadelphia and Pittsburgh. License fee $25.00. No interchange. Examination in Philadelphia and Pittsburgh. Registration with the Secretary of the Board of Dental Examiners every year, and with the County Court at the beginning of practice.—*Sect'y*, A. H. REYNOLDS, 4630 Cedar Avenue, Philadelphia, Pa.

Rhode Island: Law amended 1913. Legal protection provided for examinee. High School and dental diplomas required. June examinations last week, or first week in July, in Providence. Fee $25.00.—*Sect'y*, EARNEST A. CHARBONNEL, Providence, Rhode Island.

South Carolina: Law amended 1911. Temporary licenses granted; examinations in June in Columbia. Undergraduates examined under Rule X. No reciprocity. License fee $15.00. Examination in Columbia.—*Sect'y*, R. L. SPENCER, Bennettsville, South Carolina.

South Dakota: Law effective 1909. Five years' practitioners and college graduates examined. January and July examinations in Sioux Falls. No reciprocity. License fee $25.00. Next examination in Sioux Falls July 1, 2, and 3, 1918. *Sect'y*, L. S. SPENCER, Watertown, South Dakota.

Tennessee: Law amended 1913. Dental diploma required. June examinations in Nashville. Fee $15.00. Reciprocity with Iowa, Kansas, Nebraska, Ohio. Fee for incoming dentist $15.00; outgoing dentist $5.00. *Sect'y*, WALTER G. HUCHISON, 308 Eve Building, Nashville, Tennessee.

Texas: Law enacted 1905. Temporary licenses granted; fee $2.00. Examinations without diploma, fee $25.00. No interchange. December examinations in San Antonio.—*Sect'y*, HARRISON B. CAVE, 810-814 Wilson Building, Dallas, Texas.

Utah: Law amended 1909. 4 years' High School and dental diplomas

required; non-graduates examined. Licenses without examination may be granted at the discretion of the Board. Annual registration with the secretary of the Board; fee $1.00. June and November examinations held in Salt Lake City; fee $25.00. Reciprocity with none; law permits it. *Sect'y*, J. F. CHRISTIANSON, 1002 Walker Bank Bldg., Salt Lake City, Utah.

Vermont: Law amended 1912. High School and dental diplomas required. June examinations in Montpelier. Fee $25.00. Reciprocity with Illinois, Iowa, Indiana, Kentucky, Maryland, Nebraska, New Hampshire.—*Sect'y*, H. F. HAMILTON, Newport, Vermont.

Virginia: Law amended 1914. High School or equivalent (12 units) and dental diplomas required. June examinations in Richmond, fee $10.00. May interchange, none reported. Practical examination consists of one gold filling, one four-tooth bridge, and upper and lower set of teeth. Annual registration in April with the Secretary of the Board; fee $1.00.—*Sect'y*, E. U. POTTER, 303 Payne Building, Roanoke, Virginia.

Washington: Law amended 1913. Dental diploma required. May and November examinations in Spokane, fee $25.00.—*Sect'y*, FRANK B. SYNOTT, 249 Peyton Block, Spokane, Wash.

West Virginia: Law amended 1915. Four years' High School and *dental degree required.* June examinations in Wheeling. License fee $25.00. Certificate $2.00. Interchange with New Jersey and the District of Columbia. Biennial registration with Secretary of Board; initial registration with the County Clerk; fee 50c.—*Sect'y*, H. H. SMALLRIDGE, Charleston, West Virginia.

Wisconsin: Law amended 1914. Requirements: Four years' High School, or 14 units, and dental diplomas. June examination in Milwaukee, fee $25.00. Interchange with Illinois, Iowa, Kansas, Louisiana, Michigan, Minnesota, Ohio.—*Sect'y*, F. S. TATE, Rice Lake, Wis.

Wyoming: Amended law, 1905. No temporary permits. Dental degree required. Last week in June, examinations in Cheyenne. Fee $25.00. I.—Theoretical examinations in Anatomy, Physiology, Histology, Bacteriology, Chemistry, Metallurgy, Oral Surgery, Anaesthetics, Operative and Prosthetic Dentistry, Materia Medica and Therapeutics, Prophylactics and Orthodontia. II.—Practical work will also

be required. No interchange.—*Sect'y*, PETER APPELL, P. O. Box 643, Cheyenne, Wyoming.

Alaska: New law, 1913. All applicants examined; dental degree required. Theoretical and clinical examinations held the second Monday in January and July in Juneau. Fee $25.00. Law permits reciprocity. "Theoretical examinations include Operative and Prosthetic Dentistry, Osteology, Dental and General Anatomy, Histology, Bacteriology, Physiology, Pathology, Chemistry, Metallurgy, Materia Medica, Therapeutics, Orthodontia and Anaesthetics. Demonstrations in Operative and Prosthetic Dentistry will be required, also Prognosis and Diagnosis. All applicants must furnish their own material for demonstrations. If the examinations prove satisfactory to said Board of Examiners, they shall issue a certificate of registration to the person examined." (Part of Section 5.) Annual registration prior to July 1st; fee $4.00.—*Sect'y*, ELMO H. KASER, Juneau, Alaska.

Hawaii: Law completely revised 1917. Dental diploma required. Practical and theoretical examinations held in January and July at Honolulu, in the usual subjects. Operative: root filling and malleted gold filling; cavity selected by examiner. Prosthetic: Upper and lower dentures and a crown or bridge. Orthodontia: Regulating appliance; case selected by examiner. No interchange. License fee $20.00. Annual registration with Secretary of Board, January 1st; fee $2.00.—*Sect'y*, C. B. HIGH, 53-55 Young Bldg., Honolulu, Hawaii.

Porto Rico: Law of 1906. Examination with or without diploma. Practical and theoretical examinations held during February and August in San Juan. Examination fee $20.00. Certificate $5.00. Next examintions in San Juan, August 18, 1918.—*Sect'y*, L. R. NOA, 6 San Justo, San Juan, Porto Rico.

Philippine Islands: New Law, 1915. Temporary licenses issued, fee $5.00. Dental degree required. Examinations held during January and July each year at Manila. License fee $10.00. No reciprocity. *Sect'y*, LOUIS OTTOFY, 64 Escolta, Manila, P. I.

MINIMUM REQUIREMENTS FOR CLASS "A" DENTAL SCHOOLS

Adopted by the Dental Educational Council of America, Louisville, Kentucky, July 24, 1916, Revised at New York City, October 22, 1917, and March 26, 1918.

HENRY L. BANZHAF, B.S., D.D.S., SECRETARY, MILWAUKEE, WIS.

Albert L. Midgley, President, Providence, R. I.
J. V. Conzett, Vice-President, Dubuque, Iowa.
Henry L. Banzhaf, Secretary-Treasurer, Milwaukee, Wis.
John. H. Baldwin, Louisville, Ky.
L. L. Barber, Toledo, Ohio.
Thomas J. Barrett, Worcester, Mass.
H. E. Friesell, Pittsburgh, Pa.
S. W. Foster, Atlanta, Ga.
Louis Meisburger, Buffalo, N. Y.
A. R. Melendy, Knoxville, Tenn.
M. J. Moran, Deming, N. Mex.
A. H. Reynolds, Philadelphia, Pa.
B. Holly Smith, Baltimore, Md.
George N. West, Chicago, Ill.
Herbert L. Wheeler, New York City.

ADMINISTRATIVE POLICY

Section 1. (a) The administrative policy of the school must be satisfactory to the Dental Educational Council of America. The Dean or other executive officer must hold and have authority to carry out fair ideals of dental education.

(b) The value of the building and equipment (grounds excluded) must be equal to at least $300.00 for every student enrolled.

(c) The school must have facilities and equipment for at least twenty-five students in each class.

ENTRANCE REQUIREMENTS

Section 2. (a) The requirements for entrance shall consist of graduation from an accredited high school or academy which requires for graduation not less than fifteen units of high school work obtained in a four year course beyond the eighth grade of the elementary school. No conditions on the foregoing entrance requirement shall be allowed.

(b) An accredited high school is defined as one which is accredited as a four year high school by the United States Bureau of Education, or by a University which is a member of the Association of American Universities, or by the State University of the State in which the high school is located.

(c) In the case of an applicant who is not a graduate from a high school or academy, as defined above, the full equivalent of such education in each individual case must be established, and attested to by the highest

public educational officer of the state in which is located the dental school which the applicant seeks to enter.

(d) The entrance credentials of each student enrolled must be kept on file, and open to general inspection, until after graduation. Not later than sixty days after the opening of school the Dean shall send to the Secretary of the Dental Educational Council, and to the Secretary of the local State Board of Dental Examiners, a complete list of the students enrolled, together with a sworn statement that each student is possessed of the entrance qualifications outlined above.

(e) Students with two full years credit from Class "A" Medical Schools, approved, by the American Medical Association, may be admitted to the sophomore class. No other advanced credit in time may be given in any case other than as above specified. No special students shall be accepted unless they are in possession of the entrance requirements specified above.

(f) The foregoing regulations apply to all students including those from foreign countries, and regardless of where the applicant expects to practise his profession.

COURSE OF STUDY

Section 3. (a) Beginning with the session 1917-18 the course must be four years in length, each year to consist of thirty-two weeks and six days in each week. No degrees other than Doctor of Dental Surgery, Doctor of Dental Medicine, or Doctor of Dental Science may be given. Dental subjects must be taught throughout the entire four years. Schools that offer a three-year course with one year of college work as a prerequisite shall not be regarded as satisfactory.

(b) The school must offer a course of at least 4400 hours laboratory and didactic instruction.

(c) The minimum hours devoted to each branch shall be as follows:

Operative and clinical dentistry	1,300
Prosthetic technics	384
Crown and bridge technics	320
Operative technics	160
Oral hygiene	32
Dental anatomy	96
Orthodontia	96
Oral surgery	96
Physics, biology, or both	192
Chemistry (Inorganic—organic—physiological—metallurgy)	320

Technical drawing	48
Anatomy	320
Histology	128
Pathology (general and dental)	128
Materia medica	64
Bacteriology	128
Physiology	128
Dental rhetoric	96
Physical diagnosis, anesthesia	32
Radiology	32
Jurisprudence, dental history, ethics, economics	32
Additions to above, or other subjects	268
Total	4,400

TEACHING FACILITIES

Section 4. (a) The classes in dentistry must be taught separately from the classes in any of the other departments, if the dental school in question is part of a university.

(b) The patronage of the infirmary clinic must be such as to give each student at least 150 operations in fillings (gold, inlay, amalgam, cement, root filling, etc.), prosthetic work, and orthodontia. Treatments preparatory to the above, and cases of exodontia must not be included in the number stated above.

(c) In the anatomical laboratory not more than eight students, working in pairs, may be assigned to one cadaver for a complete dissection.

(d) Every twenty students working in the infirmary at any given time must have the undivided services of at least one demonstrator.

(e) Every thirty students working in the scientific laboratories must have the undivided services of at least one instructor.

(f) Every forty students working in the technic laboratories must have the undivided services of at least one instructor.

(g) No persons except those holding the D.D.S., M.D., or bachelors' degree or equivalent, or who hold a license to practise dentistry, shall be employed as instructors.

LABORATORIES AND OTHER FACILITIES

Section 5. (a) The school must be possessed of the following number of laboratories and class rooms, equipped in the following manner:

(b) One chemical laboratory equipped to adequately teach qualitative, quantitative, general inorganic and organic chemistry and physiological chemistry.

(c) One microscopical laboratory equipped with sufficient high power microscopes so that each student may be possessed of the use of a microscope when he is working in the laboratory.

(d) Sufficient class rooms—at least one of which must be equipped with a lantern for projection.

(e) Sufficient technic laboratories, so that each student in attendance is provided with an individual place for laboratory work.

(f) A dental infirmary, equipped with a sufficient number of dental chairs to adequately serve the senior class. An efficient equipment for sterilizing students' instruments must be provided.

(g) An X-ray outfit for use in conjunction with the dental infirmary.

(h) A dental library constantly available to the students, which shall have at least twice the number of volumes as there are students enrolled in the school.

STATE BOARD RECORD

Section 6. The school must not have more than twenty-five per cent. failures before the various state boards more than two years in succession.

ATTENDANCE

Section 7. The record of attendance required of students must not be less than eighty-five per cent for each year.

PROMOTION OF STUDENTS

Section 8. (a) A student who has incomplete course conditions, or failures, in 60 per cent. of his course for any semester shall be dropped.

(b) A student may not be promoted if he has incomplete conditions or failures in more than 20 per cent. of the course of any year.

(c) A student who fails to remove a condition or failure within twelve months from the time it was incurred shall automatically be dropped from the school.

(d) An incomplete course is one that has not been completed because of illness or other personal emergency.

PASSING MARK, CONDITIONS AND FAILURES

Section 9. (a) The passing mark shall be 75 per cent.

(b) A grade between 60 and 74 per cent. is defined as a condition.

(c) A grade below 60 per cent. is defined as a failure.

(d) A condition may be removed by examination.

(e) A failure may not be removed except by repetition of the course in part or entirely, i. e., by additional work under instruction approved by the Dean or the professor in charge of the subject.

(f) A condition which is not removed within thirty days of the opening of the next year, automatically becomes a failure and can then only be removed by a repetition of the course.

(g) If a school grades by letters it shall state (publish) definitely the percentage range value of each letter used in designation of standings.

CLASS "B" DENTAL SCHOOL DEFINED

Schools which in certain particulars do not meet the requirements for Class "A," but may become eligible for Class "A" without complete reorganization.

CLASS "C" DENTAL SCHOOL DEFINED

Schools which could not meet the requirements for Class "A" without very extensive improvements and a complete reorganization. Class "C" schools shall be considered "not well recognized dental schools."

TRANSFER OF DENTAL STUDENTS

Students of dental schools which have been well recognized, but lost this recognition, may transfer to well recognized dental schools, if acceptable to these schools. Such students may be accepted as far as entrance requirements are concerned on the requirements of the school in which the student began the study of dentistry.

PREPAREDNESS LEAGUE OF AMERICAN DENTISTS

NOTES AND NEWS

Communication From the President.—Who should receive the services of the members of the League? Every worthy man within the draft age whether he may or may not be in the service of his country at the time.

Let us forget all but the one thought—that we must do our utmost to help strengthen our great National Army. We must help make fighters to protect our flag and we must do it NOW. To-morrow may be too late.

One of our members recently arose at 3 A. M. and worked until 5 that one of "our boys" might go away in comfort. It is noble work and thousands of instances similar to this one might be related. The pride we feel in the way our profession is meeting the crisis cannot be expressed in mere words.

Every man you make dentally fit will fight for you in France.

HAVE AN ARMY OF YOUR OWN

All League Service Must be Free.—It is well, perhaps, at this time to remind our members that all dental service rendered in the name of the League must be free. There can be no deviation from this rule without nullifying the great principle upon which our organization is founded.

We are rendering an inestimable service to our country and when we shall have completed our work, let it be said that we gave freely, gladly, and with true patriotic spirit.

Third Annual Meeting of the League.—Our third annual meeting will be held on August 7th, in conjunction with the National Dental Association, Chicago, Ill.

We are arranging a program which will be of absorbing interest and urge every member who belongs to the N. D. A. to join us in the enjoyment of the good things we are preparing.

J. W. BEACH.

Communication from the Director General.—Regarding the editorial* which was enclosed with the letters you sent me to read, would say that it looks very much like German Propaganda, although I presume it was printed in all innocence, but if the Editor had stopped awhile to consider it, undoubtedly he would have adopted another form of criticism.

The Preparedness League is working under the supervision of the Surgeon-General's Office. That being the case, one must realize that before this Questionnaire was made up, very serious consideration was given the form of the questions, and each question was devised for a specific purpose. The general purpose of all questions is to help us in securing new members for the Preparedness League in order that the work may be increased to such an extent that the League may be of more efficient help to the Government.

The Question of Charging for Service.—Regarding the matter of paying for dental service by those who are well able to pay. A dentist is asked to give but one hour a day to the registrants. He would, therefore, be giving but one hour of free dental service whether the man could pay or not, and this surely is not a great hardship on any one. If the Registrant pays for the service, then directly it ceases to be voluntary service on the part of the dentist, and is, therefore, not Preparedness League work. There is no objection to a man who is able to pay for the work, going to his own dentist to have the work done and pay for it, but such service should not be recorded as Free Dental Service or as Preparedness League work, as it is work done strictly in a private capacity and is in no way connected with volunteer service. On the other hand, if any Registrant, however well able to pay, is willing to accept free service at the hands of the Preparedness League, it seems very little for the League to take care of him in comparison with the man offering his life for our protection, and I should dislike very much to hear that any dentist would refuse volunteer service under these circumstances.

Continuous Appointments Not Practicable.—Making appointments with individual members of the drafted men, is, I think, not practicable for the reason that it is only through organized channels that the dentists offering their services can be assigned their fair proportion of the work. If work was continued on each mouth until it was put in good condition, it would work out to the advantage of the few and the disadvantage of the many. If a Registrant needs a second or third appointment to make his mouth dentally fit, refer him back to the League's Headquarters for

*Editorial from a Western newspaper in which the "Questionnaire," asking dentists to join the League, was criticised.—Ed.

such appointments, and if time permits, there is no doubt but that he will be taken care of; meanwhile, those who come after him are not being neglected.

On the other hand, if a Registrant requires a second or third appointment and the dental operator is interested enough in his case to finish the work, then additional appointments may be made with the Registrant, providing they do not interfere with the time he has already pledged the League. In other words, only one hour is to be given each Registrant, unless other provision has been made for him either by the dental operator or by the Preparedness League. The *once over* for each Registrant is the important thing to be borne in mind.

Broken Appointments.—When appointments, either first or second, are not kept, the result, of course, is loss of time. When this happens it is unfortunate and must be considered a part of our personal sacrifice, as there seems to be no way to guard against it. New appointments should not be given those who break their first appointments, but they should be referred back to the League's Headquarters and sent back to the State Director.

CHAS. F. ASH.

Form 3-C Cards.—Each dentist should chart the operations performed, sign his name and apply the Stickers furnished by each State Director or County Director. If the operator has no Sticker, cross out the name of the Selective on the address side and write Lieut. W. A. Heckard, D. R. C., 50 East 42nd Street, New York City, across the card and mail at once.

Form 18 Card.—When the work on each Registrant is finished it should be recorded on Form 18 Card and when this Form 18 Card is filled up and duly signed it should be dropped in the box and sent back to the State Director. Each card takes care of itself and records work done to date.

R. OTTOLENGUI,
Director of Publicity.

THE WAY TO THINK

Are you grateful that 2,000,000 of our boys, enlisted in our Army and Navy, are giving us security at home? If you are, turn your gratitude into War Savings Stamps.

It is cheaper to spend a lot of money to win the war than not to win it.

Lend your money as freely as our boys are giving themselves.

PREPAREDNESS LEAGUE REPORT

June 5, 1918.

Editor DENTAL DIGEST:—

I am enclosing herewith copy of the report prepared by Major Heckard up to May 1, 1918. This will give each state director an opportunity to see just what has been done in his state up to May 1st.

The grand total for the United States is 236,115 operations. This is a fine showing, but we are going to make it 1,000,000 operations.

Don't criticize the states that have a small number of operations reported. Their required quota may not have been as big as yours and then, too, some states have only recently got started. Just watch the reports from now on and see them grow.

In a few days we will send you a report of the work done to June 1st, and thereafter each month. There's a big surprise coming in that June report.

The dental profession is going on record. Our part in winning the war is to make our boys dentally fit. Let's push that 1,000,000 operations "over the top." See if you cannot do two things: First, secure 100 per cent. of the dentists in your state as members of the League; and Second, secure the coöperation of members to send in reports. Application blanks in any desired quantity will be forwarded to you upon request.

The enclosed report is nothing like as large as it would have been if a Form 3C Card had been returned to our Headquarters at 50 East 42nd Street, New York City, for every operation. Unfortunately, many men do not see the necessity of making these reports and I feel sure that at least 150,000 operations have been performed of which we have no record. If, therefore, you want your state to make as good a showing as possible, it is essential that you impress upon all members of the League in your state through your county directors the necessity for returning a Form 3C Card to our Headquarters for every operation performed.

Major Heckard, who has been so untiring in his devotion to the work of the League, left our Headquarters on June 11th, and proceeded to Fort Oglethorpe to prepare himself for special services in another field of activity in the Dental Reserve Corps. His loss to the League will be greatly felt by everyone, particularly at Headquarters, and I am sure the best wishes of all our directors will follow him in his new field of action. We need your coöperation more than ever, and bespeak for his successor when appointed the same hearty coöperation which has been accorded Major Heckard.

Yours very truly,
CHAS. F. ASH,
Director General for the United States.

Preparedness League of American Dentists, 50 EAST 42ND STREET, N. Y. CITY

REPORT MAY 1st 1918

STATES	Men Examined	Men Worked for "Cards"	Fillings	Extractions	Plates	Crowns	Crowns and Bridges	Bridges	Prophylaxis	Teeth Treated	Miscellaneous	Total Operations
Alabama	79	68	62	101	2				39			204
Alaska												
Arkansas	326	248	1,078	256		7			242	9		1,592
Arizona	295	234	444	125	2	3		1	120			695
California	1,323	1,299	2,902	1,061	4	15		8	634	21	2	4,647
Colorado	55	53	156	30		1		1	33	6		227
Connecticut	1,298	1,221	3,285	1,014	8	21		11	477	9	9	4,834
Delaware	56	55	230	52		1		1	9			293
District of Columbia	97	96	212	32		2		1	45	4	2	298
Florida	30	30	62	43		1			10	1		117
Georgia	421	347	634	295		5			174	1		1,109
Idaho	5	5	20	2					4			26
Illinois	140	136	339	233	5	10	44	6	62	5		664
Indiana	2,251	1,999	4,959	1,183	4	18		2	531	18	2	6,717
Iowa	1,985	1,930	4,731	916	7	69		28	1,189	57	1	6,998
Kansas	208	194	466	128	3	10		5	109	4		725
Kentucky	328	319	705	221		8		3	133	3		1,073
Louisiana	3	3	22					1	1			24
Maine	242	193	722	172	2	1		1	63	4		965
Maryland	1,868	1,239	2,913	1,136	2	40		3	273	17		4,382
Massachusetts	3,176	2,708	7,167	2,521	11	43		34	1,237	33	2	11,048
Michigan	299	289	1,028	314	5	16		5	181	12	2	1,563
Minnesota	839	804	1,779	747	2	18		13	376	17		2,952
Mississippi	26	26	33	36					14	9		92
Missouri	220	217	613	146		8		3	109	2		881
Montana	275	271	559	381	5	2		2	156	9		1,114

	Men Examined	Cards	"Men Worked for"	Fillings	Extractions	Plates	Crowns	Crowns & Bridges	Bridges	Prophylaxis	Teeth Treated	Miscellaneous	Total Operations
Nebraska	774	684	1,656	414	3	20		2	358	20			2,473
Nevada	14	14	31	22					4				57
New Hampshire	281	278	1,174	296	2	19		8	143	9			1,651
New Jersey	39	39	75	107	5	1		6	10				205
New Mexico													
New York	10,815	10,692	20,661	14,584	62	75		94	2,500	267	27		38,270
North Carolina	147	116	472	150		3			43				668
North Dakota	1,316	1,302	3,302	833	2	18		5	547	21	9		4,737
Ohio	3,309	2,877	7,545	2,385	16	96		20	1,563	46	2		11,693
Oklahoma	834	814	1,520	392	1	25		4	536	23	3		2,504
Oregon	221	205	856	141		4		10	136	10			1,155
Pennsylvania	4,235	3,671	11,694	2,955	25	50		19	1,123	45			15,911
Porto Rico													
Rhode Island	1,108	1,017	2,587	738	2	11		11	406	6	1		3,763
South Carolina	3	3	2	2					3				7
South Dakota	42	41	111	51		2			22				186
Tennessee	808	783	1,664	588	2	4		1	526	12	1		2,798
Texas	1,143	1,091	1,801	733		9		3	720	9	2		3,277
Utah	456	321	867	176	2	16		13	159	14			1,347
Vermont	474	457	1,457	300	3	6			186	3	2		1,937
Virginia	200	150	430	155				3	64				652
Washington	8	8	26	6		2							34
West Virginia	105	103	316	91	1	2			25	9			444
Wisconsin	118	115	378	120	1	6		2	65	8			580
Wyoming	50	44	69	55		4			16	1			145
STATES TOTAL	42,045	38,841	93,813	36,437	191	672	4	320	5,396	744	57		147,684
DENTAL COLLEGES Previously Reported	5,081		10,034	4,397	105	68	95	39	2,945	1,679	71		19,433
ESTIMATES OF STATE DIRECTORS Previously Reported	9,801		11,734	6,405	204	597		325	1,139	297	48,327		69,028
GRAND TOTAL	56,927	38,841	115,581	47,239	500	1,337	99	684	19,480	2,720	48,465		236,115

Two Prize Contests

Few things that we can do this summer, aside from our professional work, will be more important than an intelligent effort to produce food for our own support, in order that we may release food for our army and our allies.

In order that our readers may be stimulated to determine and report their profits, financial, physical, and sentimental, we have decided to inaugurate two prize contests, as follows:

To the contestants who secure the greatest financial returns from their war gardens, we offer

First Prize	$25.00	in cash
Second Prize	15.00	" "
Third Prize	10.00	" "

For the three articles relating the best physical or sentimental returns from war gardens, we offer the following prizes:

First Prize	$25.00	in cash
Second Prize	15.00	" "
Third Prize	10.00	" "

By "physical returns" is meant benefits to health, either mental or bodily.

By "sentimental returns" is meant that feeling arising from sacrifice in a real effort to do your bit—and more.

The articles in this contest will be considered more for the stories they tell than for literary merit.

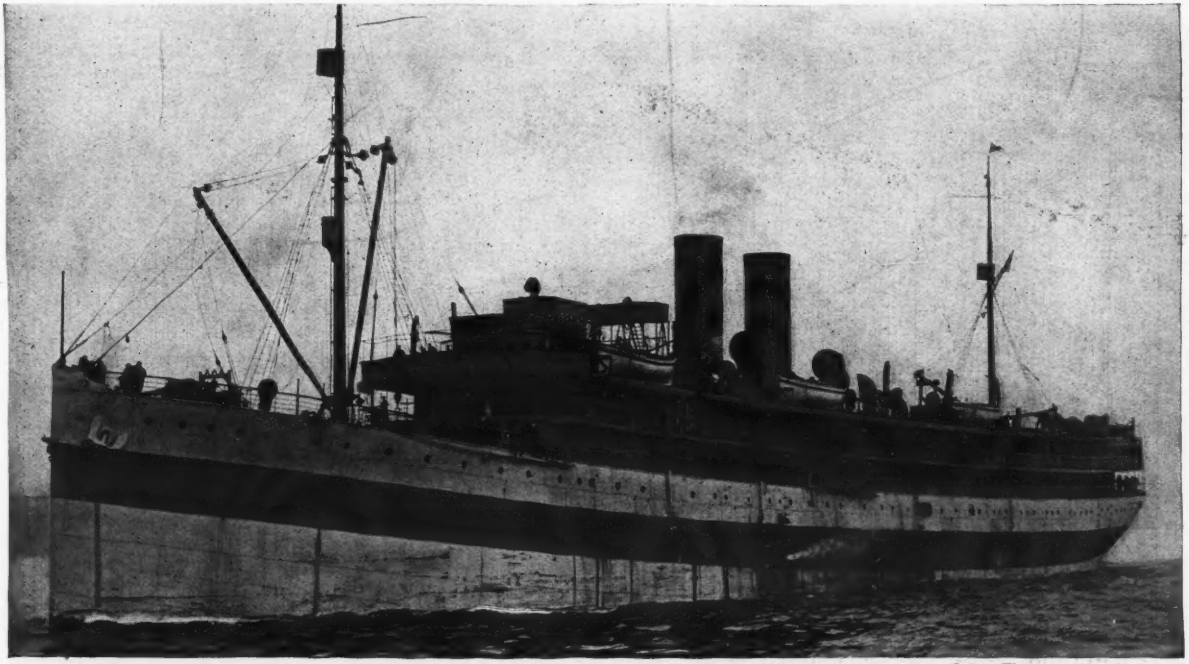
Dentists' wives may also be interested in these contests, and are eligible to compete.

In the event of two or more contestants tying for any of the prizes, a prize of equal amount will be given to each.

All copy in each contest must be in our hands by October 1st, 1918, which will be the closing date.

Each individual shall be eligible to the First Prize in but one contest.

Awards will be made as soon as possible after the receipt of the articles and the winners will be announced in the December issue of THE DENTAL DIGEST.



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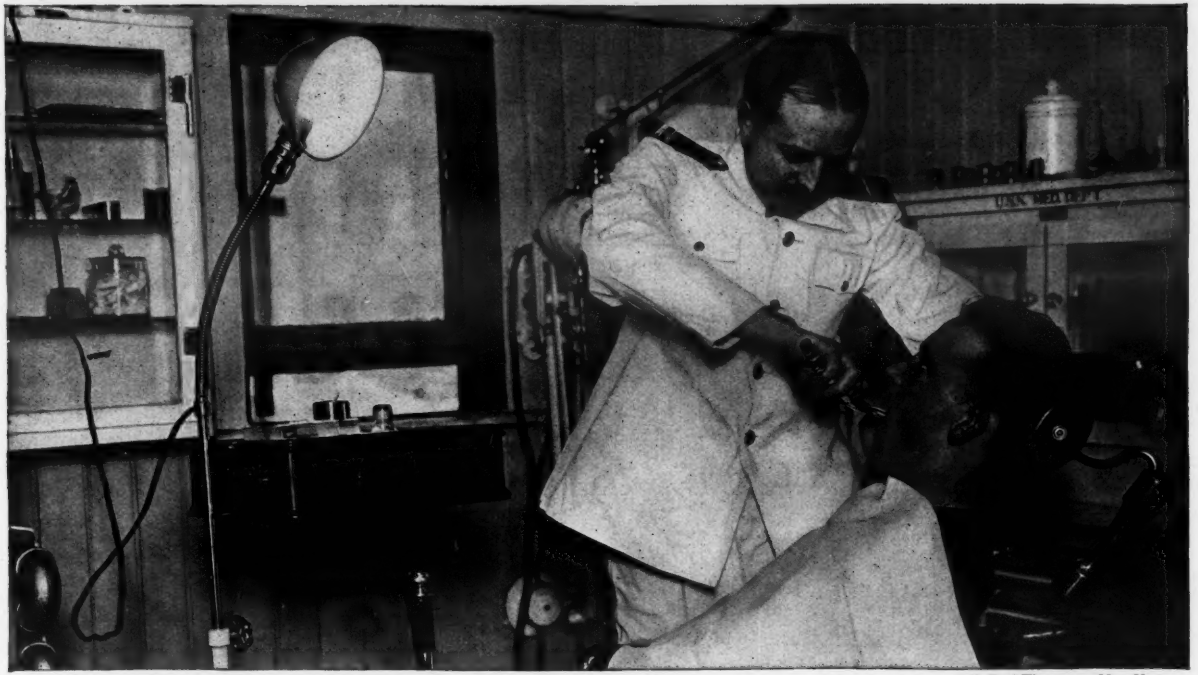
The U. S. S. *Mercy*, our first completely equipped hospital ship, which is now in active service. Her sister ship, the *Comfort*, is about to be placed in Commission. The *Mercy* is under command of Dr. Norman D. Blackwood. Both ships will serve our Navy, and are among the most completely equipped vessels of their kind in the world



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The Navy prides itself on the condition of the teeth of our sailor boys. On the *Mercy* is a Dental Laboratory just big enough to accommodate one good sized jackie and elbow room for the dentist

© Paul Thompson, New York

This ingenious method is adopted by the Hospital Ship to take on or send off wounded soldiers. No danger, inconvenience, or suffering is experienced by the patient

DIETETICS AND HEALTH

JUST A MATTER OF HABIT

In this matter of good health just a few plain rules suffice. The whole matter then becomes automatic and self-lubricating.

Health is a habit.

We are ruled by habit.

There are three habits which, with but one condition added, will give you everything in the world worth having, and beyond which the imagination of man cannot conjure forth a single addition or improvement. These habits are:

THE WORK HABIT.
THE HEALTH HABIT.
THE STUDY HABIT.

If you are a man and have these habits, and also have the love of a woman who has these same habits, you are in Paradise now and here, and so is she.

Health, books and work, with love added, are a solace against all the slings and arrows of outrageous fortune—a defense from all the storms that blow. For through their use you transmute sadness into mirth, trouble into ballast, pain into joy.

Work means safety for yourself and service to mankind.

Health means much happiness and potential power.

Study means knowledge, equanimity and the evolving mind.

And love means all the rest!

THE REAL AMERICAN PERIL

Premature deaths in middle life are chiefly due to three causes—the general character of American life, the rush to the city, and overeating and drinking.

The first, which I will call Americanitis, is the result of those conditions that place the acquisition of wealth within range of reasonable hope for a very large portion of our citizens. American opportunity spells

ambition and ambition spells struggle and struggle spells competition and competition spells overstrain and overstrain spells disaster.

So far as the rush to the city is concerned, it is by no means confined to this country, but the effects are the same here as elsewhere. It seems probable that the daily existence of the citizen in the midst of noise, rush, hurry and under the constant strain of going, coming, seeing and doing, without rest or peace, lays the foundation of many of the physical and mental ills of later life.

But, when we come down to eating, the American has his own peculiar way of ruining his constitution. The American dinner table is the most tempting in the world. It combines English bounty with French cooking; and whereas the Englishman is saved from excess by bad cooking and the Frenchman by small portions, the American has mated the English table and the French cook and the result is joy to his appetite and death to his arteries.—PROF. SEDGWICK.

WOODEN BREAD

I am able to give first information regarding an important invention of great significance, says the Stockholm correspondent of the New York *Globe*, that of making wooden bread. I have been informed of this by men of integrity who have a genuine knowledge of the subject. The method is that of making a highly nourishing bread with a proportion of from one-third to two-thirds of cellulose.

The method was invented by a Swedish chemist employed by a Swedish grain man living in Gefle. Chemists in Germany have long believed that wooden bread was possible, and they have worked indefatigably, but fruitlessly to discover a method of making it.

This Swedish wooden bread was recently given a secret but thorough test in the chief hospital in Stockholm, the Seraphim Hospital, where it gave excellent results. The patients thrived on it, found it palatable, and put on weight. The inventors will soon announce the discovery in all the Swedish newspapers simultaneously.

WE MUST WIN!

If we don't want wooden bread, paper shoes, tin money, perpetual militarism, systematic german atrocities in business, german "kultur," and a german substitute for civilization, we've got to win this war!

BOOK REVIEWS

CAST GOLD AND PORCELAIN INLAYS. BY H. E. S. CHAYES, D.D.S., New York City. To the main subject, of which the book treats very fully, there is added a special chapter on Endocrinodontia, or the Ductless Glands—their Expression in the Human Mouth. The book is prepared with great care, contains 372 interesting illustrations, and (note this please) an explanatory list of these illustrations and an index that will prove a joy to every possessor of the volume. 392 pages. Published by C. V. Moseby Co., St. Louis, Mo.

ORAL SEPSIS IN ITS RELATIONSHIP TO SYSTEMIC DISEASE. BY WILLIAM W. DUKE, M.D., Ph. B., Kansas City, Mo. The subject is one in which the author shows great ability in handling, and the book will be a valuable addition to any dentist's library. There are 170 illustrations, and a bibliography that is not often found in even more pretentious works. 124 pages. Published by C. V. Moseby Company, St. Louis, Mo.

INTERPRETATION OF DENTAL AND MAXILLARY ROENTGENOGRAMS. BY ROBERT H. IVY, M.D., D.D.S., Major Medical Reserve Corps, United States Army. Roentgenology is now so important a feature of dentistry that reliable books on the subject are always welcome. The present author says: "The purpose of this volume is to present to members of the medical and dental professions the data necessary for making an intelligent diagnosis of pathologic conditions about the teeth and jaw bones in which Roentgen examination plays a part." 259 illustrations. Published by C. V. Moseby Co., St. Louis, Mo.

DENTAL ECONOMICS

CREDITS

By A. F. Wallen, D.D.S., Huntington, W. Va.

The question of credits is one which will concern us, from now on, more vitally than ever before. Operating expenses at your offices and living expenses at home are greater than ever before. Calls from the Red Cross, Y. M. C. A., K. of C., etc., are numerous and insistent, but they cannot be answered with words and well wishing, they must have "the money." Everything calls for thrift at this time and will continue to do so for long after the war. These virtues, though, cannot be practised unless we collect the money we earn, and that within a reasonable length of time.

When the credit men of the Dental Manufacturers said, a short time ago, that quite a large percentage of the dentists were unworthy of credit, they didn't say, nor did they think, that those same dentists were dishonest at heart. What was meant was, that the dentists gave a more liberal credit and made a greater amount of bad accounts among their patients than the dental supply houses could afford to do among the dentists.

Credit is not a matter of sentiment among the supply houses and if they refuse you credit it is not because they dislike you personally but because they have figured, after much thought, that you are not a good financial risk, just as the life insurance company figures that you are or are not a good physical risk. Just consider that you have a financial being as well as a physical being, and remember that it requires some care and the right to keep it in a good healthy condition.

The dental profession has arrived at the point where our supplies are bought on a 30-day credit, and if we wish longer credit it is obtainable, but at 6 per cent. That means that sooner or later, and the sooner the better, that we must arrange our charge accounts on a basis of certainty as nearly as such a thing is possible. We all know that a credit business, no matter how carefully the risks are selected, entails some risk, but we should hold the risk down to as low a point as possible.

If you feel that your practice requires a certain amount of credit, and is worthy of it, extend it if you wish, but place your credits within very definite time limits and stick to it.

Mrs. Smith gets up from your chair with a certain amount of your material in her mouth and after having consumed a certain amount of your time, both time and material representing a part of your working capital, rearranges her seventy-dollar gown and says, "Doctor, Mr. Smith will mail you a check." Now, of course you are filled with joy to know that friend Smith really intends to send you a check because your own wife may be waiting on the collection of this account to get herself a new fifteen dollar gown. The statement of Mrs. Smith, though, is entirely too indefinite, therefore you have a perfect right to say, "That is all right Mrs. Smith, my terms are thirty days and you may mail the check within that time." You have just as much right to enquire into the intentions of Mrs. Smith to pay as have your creditors to inquire into yours.

The first few times you will carry through your part of this little dialogue with much fear and trembling, but practice will give you courage. That, though, is what the department store expects of her, and you, having performed a very definite service, have a right to expect a prompt and cheerful settlement.

If you wish to do business on a cash basis you will find it easier than you expected. Don't be afraid to have in your office a neat, gold lettered sign, "Terms Cash," and stick to it. Your old patients may come in expecting the loose terms of credit that had been extended to them in the past, and in that case you can make a very polite explanation as to why you have been compelled to change your terms. Of course they have a perfectly good excuse for expecting credit this time, but start all your new patients on a cash basis and in eighteen months all your old patients will be educated to your new viewpoint. Thereby you are benefiting yourself and rendering a service to the profession at large, because if some of your patients do leave your office in a huff, there will be mighty few desirable ones do so, the little educational talk you have given them will make it easier for the next fellow to deal with them.

Don't be afraid to let your patients know that your services are worth paying for. "Hitch your wagon to a star," as Emerson said, and collect as you go.

PRACTICAL HINTS

This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.

Editor DENTAL DIGEST:

Regarding answer to A.N.G. for extremely sensitive necks of teeth, use a saturated solution of Potasium Carbonate in glycerin. It requires, glycerin 2 oz., potass. carb. 1 oz. This applied to the necks of the teeth a few times gives excellent results. I offer this as a suggestion, and have used it a number of years with best results.

DR. D. MCCLARTY
Athens, Pa.

Editor DENTAL DIGEST:

I have adopted the following method for covering the paste over exposed pulps with cement, as I suggested in March DIGEST in article on pulp conservation. Take a rather thick celluloid strip, about 35 G. is best, and place it on a rubber block, as a pencil eraser. With a large ball burnisher slightly warmed, press quite hard for a moment with a rotary motion. This makes a neat saucer-shaped disk. Trim to the size desired, slightly larger than will completely cover paste. About $2\frac{1}{2}$mm is a convenient size. Lay the celluloid disk on a flat surface concave side down. Heat small ball burnisher (as S.S.W. Arrington No. 9) quite hot and touch lightly the convex side of disk and hold without perceptible pressure for a moment. The disk will adhere to the burnisher point. If one so desires he can touch warmed burnisher to hard sticky wax and attach to disk. Make thin cement mix and fill disk quite full, being careful not to dislodge disk. Carry same to cavity and cover paste which has been placed over exposure. While holding down disk a slight twist of the instrument will detach it. This method is splendid in those inaccessible distal upper molar cavities. Celluloid is superior to metal as it is not acted upon by the mercury of amalgam, and placing a layer of cement over paste in an upper cavity without disk is often very trying.

F. L. DUNGAN.

THE BEST OF CURRENT THOUGHT

[*Dental Cosmos*, June, 1918]

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The Reading of Good Books.

SOME OF THE HIGH SPOTS IN N. Y. CITY

A live Western man astonished a foreigner who asked for some definite information about the big trees of California, by telling him that many of these trees are so high that it takes two men and a boy to see to the top of them.

This method of measurement very nearly applies to a number of big buildings now seen in the business section of New York City. Visitors never fail to enquire about the height of these great structures when seeing them for the first time. In this connection the following figures may not be uninteresting, as it is sometimes difficult to get exact information when needed:

Woolworth Building, 55 stories, 793 feet high; Metropolitan Life, 52 stories, 700 feet high; Singer Building, 49 stories, 612 feet high; Bankers Trust Company, 39 stories, 540 feet high; Municipal Building, 34 stories, 560 feet high; Equitable Life, 38 stories, 537 feet high; City Investing Building, 34 stories, 486 feet high; Bush Terminal, 30 stories, 450 feet high; Adams Express, 32 stories, 424 feet high; Times Building, 28 stories, 420 feet high; Park Row Building, 31 stories, 390 feet high; Liberty Tower, 31 stories, 380 feet high; Candler Building (home of the DENTAL DIGEST), 29 stories, 341 feet high; Hudson Terminal, 22 stories, 375 feet high; St. Paul Building, 26 stories, 317 feet high; World Tower Building, 30 stories, 335 feet high; Flatiron Building, 25 stories, 300 feet high.

In the near future there will be other giant structures to add to those already mentioned—the Commodore Hotel at Grand Central Station, which is to be 26 stories high, with 2,000 rooms, and to cost $6,000,000; The new Murray Hill Hotel, planned to cover an entire city block near Grand Central Station, 2,000 rooms, the main structure to be 32 stories high and capped with a tower that may overtop the Woolworth, the cost to be $10,000,000; also the great Commonwealth Hotel, to occupy an entire block every way, 34 stories high, 2,500 rooms, and to cost about $15,000,000.

Dental Societies need not hesitate in coming to New York City for their Annual Conventions with any doubt about hotel accommodations. Here are some of the big structures already prepared to take good care of such visitors: The Waldorf, 20 stories, 1,400 rooms; the Plaza, 20 stories, 1,500 rooms; Biltmore Hotel, 20 stories, 1,000 rooms; Vanderbilt Hotel, 23 stories, 700 rooms; McAlpin, 28 stories, 1,620 rooms; Hotel Astor, 12 stories, 900 rooms; Knickerbocker, 16 stories, 1,000 rooms.

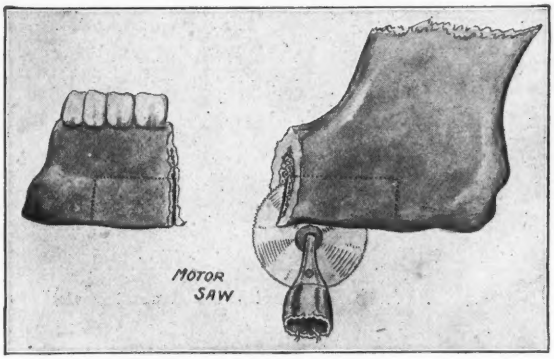
OPERATION ON THE JAW

A recent article by Drs. Gallie and Robertson of Toronto, on the "Transplantation of Bone," included an interesting description of an operation on the jaw, and we give here a brief summary of same which is sure to interest the dental profession generally.

THE OPERATION

In the fracture of the mandible in which it is essential that gaps shall be bridged in order that deformity of the jaws may be avoided, the technic used in our clinic is as follows:

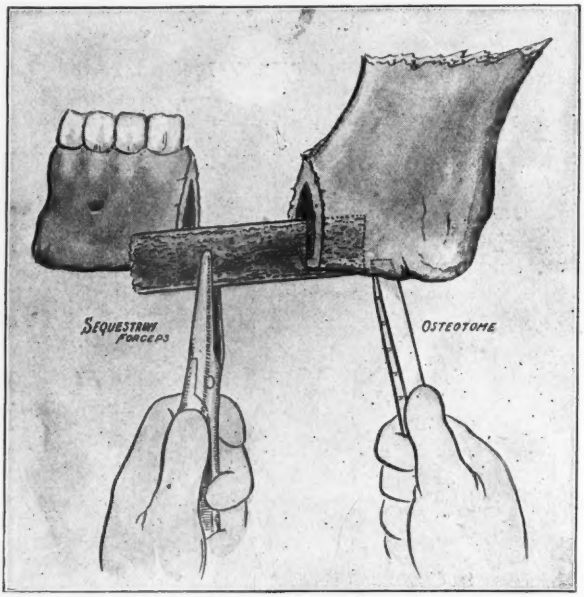
The fragments are exposed by a long incision along the lower border of the jaw. The motor saw is then applied to the fragments, and a saw cut made along the inferior border extending an inch to an inch and a half



Application of motor saw in operation for closing gap in mandible produced by gunshot wound

back from the end of the fragment, and about half an inch deep. Great care must be taken to avoid opening into the cavity of the mouth or into the sockets of the teeth. An osteotome is then driven into the saw cut, and a greenstick fracture produced, widening the wedge-shaped gap for the reception of the graft. An interdental splint which has previously been cemented to the teeth of both jaws is now locked, with the teeth of the two jaws in exactly the correct relation to one another. The graft is made by resecting 3 inches of a rib. This piece of rib is then split on the flat, in order that the endosteal surface may be bathed in lymph. Half of the graft is then driven into the slots in the fragments, the smooth side of the rib facing toward the mouth cavity. This leaves the rough,

cancellous surface of the graft facing outward and sunk somewhat below the outer surface of the jaw. This depressed area is then filed out by laying a piece of the other half of the rib in the gap, with the smooth side out. The fragments and grafts are now fastened solidly in place with



Insertion of half of split rib with smooth side toward the mouth cavity

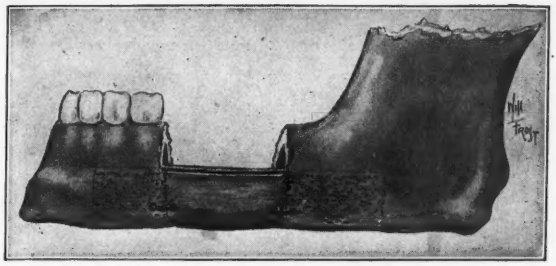
kangaroo tendon passed through drill-holes. This adds additional security, although it is really unnecessary, as the principal graft is self-retaining, being wedged solidly into the saw cuts in the fragments.

The operations on the jaws have been most satisfactory. Several soldiers have been operated on in our clinic who have been able to eat ordinary food five months after the implantation of a graft which has bridged gaps of from 1 to 2 inches.

BONE TRANSPLANTATION IN WOUNDS OF THE FACE

Occasionally the transplantation of value in cases of wounds of the face in which permanent openings into the sinuses of the nasal cavity have been produced.

During the past year a patient was operated on by Dr. Edmund Boyd and one of us, in whom there had been a complete destruction of the



Completion of operation by the placing of the other half of the rib in contact with the first half, between the ends of the fragments, and by the fastening of all in place with kangaroo tendon

bridge of the nose, leaving a permanent opening about the size of a 25-cent piece leading into the ethmoid cells. This opening was surrounded by a very unhealthy scar. The operation was performed in three stages. In the first stage the septum of the nose was straightened up and the fragments of the nasal bones, which had been driven inward, were removed. At the same time a section of rib was removed and split as described above and placed under the skin of the dorsum of the forearm, superficial to the deep fascia. At the end of three weeks the edges of the wound in the face were dissected free of scar and the nasal process of the frontal bone freshened with a chisel. A pedunculated flap was then raised from the forearm, including the buried bone graft and the deep fascia, and the edge of this flap sewed to the edges of the gap in the forehead. The end of the graft was exposed and placed in contact with the frontal bone, in fact, driven into it. The head and arm were then encased in plaster of Paris and the wound left undisturbed for three weeks. The flap was then freed from the forearm and accurately sewed to the remainder of the opening in the face. Healing occurred kindly, and the whole flap retained its vitality. A small sinus closed after discharging six weeks. This patient now has a complete closure of the unsightly hole in his face, and the anterior wall of his ethmoidal sinuses is protected by a solid plate of bone.

CONCLUSIONS

We wish to draw attention once more to the principles that should govern the science of bone grafting. It must be remembered that a so-called living autogenous bone graft is alive only in virtue of the osteoblasts that are free on its surfaces, and in the mouths of the haversian canals. All the rest of the graft dies and is absorbed. It owes its value in bridging gaps and in encouraging union of ununited fractures to the

fact that during the process of its absorption the osteoblasts which invade it from its own surfaces and from the neighboring bones build up new bone to take the place of that which is absorbed, so that ultimately the break in the continuity of the injured bone is bridged by new and healthy bone. This established fact indicates at once the necessity for perfect contact of the graft to fresh, healthy bone in the fragments, and shows the reason for extending the graft well beyond the sclerosed extremities. It also shows the importance of using, as a graft, bone from which the periosteal and endosteal surfaces have not been removed, as it is on these surfaces that the greatest number of osteoblasts is to be found.

For the same reason the graft should be made from bone which is as porous as the requirements of the case, in relation to strength, will allow.

Soldier on whose jaw operation was performed; range of motion of jaw normal

Hence the value of the rib as a graft, particularly if it has been opened up so that the osteoblasts of the interior can obtain the necessary supply of lymph.

After the principal graft has been inserted, as many small pieces as possible should be packed around it, the fragmentation increasing the surface area exposed and hence increasing the number of surviving osteoblasts.

In those cases in which the introduction of living blasts is not an essential feature of the operation, the value of boiled bone must not be overlooked, as it possesses many of the virtues of the autogenous graft without some of its disadvantages.—*The Journal American Medical Association.*

A WAR SAVINGS SOCIETY

Our readers have been invited to "back up" our soldiers at the front by joining or forming a War Savings Society. Full information will be supplied upon addressing the War Savings Society Bureau, 51 Chambers Street, New York City, or the National War Savings Committee, Washington, D. C.

Members of War Savings Societies promise to avoid competing with the Government for labor, materials and transportation by buying only what they need and only when they need it, and agree to invest their savings weekly or monthly in Thrift or War Savings Stamps.

A War Savings Society may be formed within a society, class or club, or in any group of people who work together or eat together, who play together or otherwise frequently "get together." The Society will include all members of the group who are willing to sign the patriotic agreement to individually support the Government in two ways— (1) by each doing his buying thoughtfully, and (2) by loaning his savings to the Government.

There will be a chairman and secretary whose first effort will be to secure as members of the War Savings Society all members of the group, each one signing the application blank and promising to purchase a certain number of Thrift or War Savings Stamps every week or every month. From time to time, the secretary will check up the stamp purchases of the members so that none may neglect their promises. Weekly or monthly reports of the total purchases and total number of members will be sent to the National War Savings Committee.

At such times as the members may determine ten minutes or more will be given to the War Savings Society of that group for war savings and other war time discussions. In some offices or factories occasional brief, informal talks may be practicable. For these talks and the more formal meetings speakers will be suggested and material will be supplied from time to time.

"The kiss of the sun for pardon,
The song of the birds for mirth;
One is nearer God's heart in a garden
Than anywhere else on earth."

THE "BIG SQUEEZE," ON AND OFF

The average adult man sustains on every pleasant day an atmospheric pressure of about fourteen tons at sea level when the barometer is at 30, and a drop of an inch or more, to 29 and below, practically takes off half a ton or more of his load to which he is accustomed. Paradoxically, instead of feeling lighter and freer, man feels its disturbing, depressing effect on his tissues. He has to become adjusted to this alteration from normal tensity to one of unusual relaxation. The relaxed condition in unpleasant weather extending over a number of days makes us feel "out of sorts."

HOW A POET "GETS THE HOOK" IN CHINA

In China even the writer of rejected literary work is treated with politeness. Here is an editor's letter to a poet. "We have read thy Manuscript with delight. By the bones of our Ancestors we swear that never have we encountered such a Masterpiece. Should we print it, His Majesty the Emperor would order us to take it as a criterion, and never again to print anything which was not equal to it. As that would not be possible before Ten Thousand Years, all trembling we return thy Manuscript, and beg of thee Ten Thousand Pardons. See! my hand is at my feet, and I am thy Slave!"

EXTRACTIONS

The trouble with undersea war is that it is not on the level.

Another thing—why should the bride love, honor and obey her husband when nobody else does?

"The doctor says he'll remove my appendix for $1500."
"Oh, George, I'd much rather have a touring car."

Among the iridescent dreams is one that includes a man clinging to a piece of timber in the icy Atlantic and still feeling perfectly neutral.

A family with an artistic temperament isn't really as much of an addition to a neighborhood as a family that owns a stepladder.

Patient—I wish to consult you with regard to my utter loss of memory.
Doctor—Ah, yes. Why—er—in cases of this nature I always require my fee in advance.

Doctor—Have you tried counting up to 100?
Insomnia Patient—Yes, but at forty I remember that's the amount of your bill, and at eighty my wife's new gown gets my goat!

If a mother were to paint a green ring around her nose and dye her hair blue, the first words of the husband and children on coming home would still be, "Is dinner ready?"

Mrs. Slimmer—Your husband seems to be getting thinner every day.
Mrs. Portleigh—Yes, poor fellow! But I was getting so awfully stout we have to diet.

"How did Jones happen to fall downstairs?"
"Why, his wife said, 'Now, Henry, be careful,' and, as he is not the man to be dictated to by any woman, down he went.

A kind old lady says that she thinks the munition factories had ought to be required to have large asbestos curtains like in a theatre that could be let down between the workers and the gunpowder just as soon as it begins to explode.

Mrs. Ryan—"They do be afther sayin' that old man Kelly has locomother ataxy."
Mrs. Murphy—"Well, he's got the money to run wan av thim if he wants ter, but I'd rayther have a good horse anny day."

"That is my hired man asleep up there in the crotch of that oak tree," said honest Farmer Hornbeak. "You are entitled to one guess as to whether he clumb up there to slumber or went to sleep on the ground on top of an acorn which grew up with him."

E. H. Sothern tells this story on himself: Some workmen were redecorating his private residence. Thinking to give them a treat he asked them if they would like to attend his performance in Hamlet. They said yes, and were provided with tickets. All went Saturday night to see the play. At the end of the next week when pay-day arrived, Mr. Sothern glanced over the pay-roll and noticed this item for each workman: "Saturday night—Four hours' overtime at Century Theatre, $2.50."

FUTURE EVENTS

NATIONAL DENTAL ASSOCIATION

SIXTIETH ANNIVERSARY OF ORGANIZED DENTISTRY AND DEDICATION OF BLACK MEMORIAL

Will be celebrated August 5-9, 1918, by rendering an unusual literary and clinical program at the Auditorium and Congress Hotels, Chicago, Illinois.

House of Delegates—Monday, August 5. The Registration office for this great meeting will be open Monday morning, at 8:30. The delegates to the House of Delegates will present their credentials and be seated at 10 A. M. This will be the big official business day of the meeting.

Seminar—The Management of Pulpless Teeth—Tuesday, August 6, 9:30 A. M. Six of the best known scientific research authorities will submit "evidence and not opinions" on this subject.

Three Section Meetings—Tuesday, August 6, 2:00 P. M. The Section on Prosthetic Dentistry and Crown and Bridge Work will render a program on "Occlusion and Variable Occlusion" and "A Scientific Technic in the Construction of an Artificial Denture."

The Section on Oral Surgery and Anesthesia will present a program on "Cleft Palate and Harelip Procedures" and "Recent Progress in the Management of War Injuries of the Face and Jaws."

The Section on Orthodontia and Periodontia have arranged for the following program:

"A Classification of Pathological Conditions of the Mouth."

"Physiological Factors as Related to the Peridental Membrane, Cementum and Bone in Tooth Movement."

"Orthodontic Appliances and Gingival Tissue."

"The Histology and Development of Cementum."

"The Duty and Responsibilities of the Orthodontist in the Present War."

"The Necessity for Orthodontic Interference in Malocclusion of the Teeth."

Military Dentistry—War Surgery—Tuesday, 8:30 P. M. The speakers at this session will be surgeons of National and International reputation.

Unusual Section Programs—Six Sections and Oral Surgery Clinics—Wednesday, August 7, 9:00 A. M. The Sections on Operative Dentistry, Materia Medica and Therapeutics—Organization, Mouth Hygiene and Public Service—Research—The Preparedness League of American Dentists and General Oral Surgery Clinics will each present their programs in various rooms in the Auditorium and Congress Hotels.

2:00 P. M. The Sections on Prosthetic Dentistry and Crown and Bridge Work—Oral Surgery and Anesthesia and Orthodontia and Periodontia will hold their second session Wednesday, at 2:00 P. M.

Canadian Dentists, our Guests—Wednesday, August 7, 8:00 P. M. How fitting it is, when the young men of the allied countries are freely and willingly giving their lives in the terrible conflict which is absorbing the attention of the entire world, when men and women of every station in life are making their first business the winning of the War, that the dentists of Canada and the United States should unite in holding their National meetings. The Canadian Dental Association will be the guests of the National Dental Association at this meeting and the program for the Third General Session for Wednes-

day evening will be furnished entirely by this Society. In the United States we have long since learned to follow the advice of Ruskin when he said:

"Gain all the knowledge you can;
Then use it for the highest purpose."

International General Clinic—150 Clinicians—Thursday, August 8, 9:00 A. M. Clinics will be given by members of the Canadian Dental Association, representatives of forty states, and Alaska—Unit Clinics, Special Clinics on Root Canal and Crown and Bridge Work.

Luncheon to our Ex-Presidents. Former Presidents of the American, Southern and National Association to be the guests of the Association at a luncheon in their honor by the members of the profession, who desire in this small way to show their appreciation of the valuable services they have rendered the profession and also to pay a just tribute to the Founders and Builders of Organized Dentistry.

Dedication of the Black Memorial Monument—Thursday, August 8, 2:00 P. M. It has now been almost three years since the dental profession was deeply grieved to hear of the death of Doctor G. V. Black. Those who were present at the Panama Pacific Dental Congress at San Francisco will never forget, when his death was announced just at the opening of the Congress, how the cloud spread over that vast audience. In matters pertaining to Dentistry, Dr. Black was easily the master. If the world misses him, as it surely does, how much more do we miss him? It was our pleasure and privilege to live with him, speak to him and feel free to consult him at any and all times. By his death, the dental profession has lost one of its most cherished members; the world has lost a benefactor. All that was needed to erect a monument to his memory was for some one to say the word. That word has been said, and dentists from nearly every state in the Union, as well as from many foreign countries, have contributed to the fund for the purpose. What could be more appropriate, therefore, than to unveil the monument to this great man when the National Dental Association is holding its annual meeting in the city, where, during the last years of his life, he lived and worked.

Patriotic Service—Thursday, August 8, 8:00 P. M. Men of International and National reputation will be on the program for this unusual meeting, men who are the recognized leading statesmen, surgeons and divines of this age. It is quite fitting in this great war crisis that the dental profession should show its patriotic spirit by pledging anew its loyalty and devotion to our country. The speakers on this occasion will give the members of the dental profession an opportunity to hear the best men of the day discuss the vital problems that have to do with the present and future of our Republic.

General Session and Section Meetings—Friday, August 9, 9:00 A. M. The Sections on Operative Dentistry, Materia Medica and Therapeutics, Organization, Mouth Hygiene and Public Service, Research, and the House of Delegates and the last general session will be the climax of this great meeting—an anniversary meeting that will go down through the years as having established a new high water mark in the history of dentistry.

Remember the Splendid Time You Had in Chicago at the Fifteenth anniversary celebration of the Chicago Odontographic Society in 1903 and the Golden Anniversary of the Illinois State Dental Society in 1914. Since these meetings, several years have elapsed and the Chicago dentists have profited by being hosts on these occasions. They now ask that we give them another opportunity to prove the foregoing assertion.

August 5-9, 1918.—The Canadian Dental Association has accepted the very kind invitation of the National Dental Association to meet with them in Chicago, August 5 to 9 next. SYDNEY W. BRADLEY, *Secy.*, C.D.A.